



UGANDA PROTECTORATE

Annual Report
of the
**Game and Fisheries
Department**

FOR THE PERIOD
1ST JANUARY, 1954, TO 30TH JUNE, 1955

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UGANDA PROTECTORATE

THE GAME AND FISHERIES DEPARTMENT

Report

For the Period 1st January, 1954, to 30th June, 1955

Introduction

"The destruction of any human work of art—a beautiful picture, a statue, a splendid piece of architecture—is a serious catastrophe, but is not irremediable; such things are the work of man, and what man has done once, he can do again: his genius can create other equally beautiful pictures or statues, or splendid pieces of architecture, to replace those lost. It is not so when a natural species has been destroyed. No utmost effort of man can ever again bring it into being. Once gone, it is lost irremediably, and the world is permanently the poorer."

—LT.-COL. J. STEVENSON-HAMILTON, LL.D., F.R.G.S., C.M.Z.S.,
Warden of the Kruger National Park for over forty years.

1. For reasons connected with the change in the "Financial Year", as explained in detail later, this "annual" report covers a total of 18 months, and future reports will coincide with the Financial and not the Calendar year. It also marks the end of a five year period during which the Department has been largely expanded and reorganised and its activities greatly extended, and this appears to be an appropriate opportunity for the results achieved to be briefly reviewed.

2. During this time the headquarters have been reorganised and expanded to include, besides the Game Warden, a Senior Fisheries Officer, an Assistant Warden and an Armourer, and have moved to specially-designed office accommodation by the lake-side with laboratory, armourer's workshop, aquarium and library-cum-museum facilities.

3. The main game areas of the Protectorate have been organised as six separate "Ranges", each under the control of a Game Ranger assisted by a Game Assistant, and with a more disciplined force of Game Guards under command, control and discipline being further maintained by a recently introduced system of ranks. This has resulted in far better enforcement of the game laws and has reduced unnecessary destruction in the interest of crop protection.

4. A system of tests for applicants for game licences has been introduced; it has already proved its worth for weeding out undesirables and incompetents, and the idea has roused wide interest in the East and Central African territories, where it has been received with general acclamation.

5. Much work has been done on the revision and modernising of game legislation, and a number of amendments have been made to the Game Ordinance.

6. The Department has also played a major part in both the conception and inception of the new National Parks Organisation and the Queen Elizabeth and Murchison Falls National Parks which, as had been prophesied, have already become a great attraction for both residents and visitors.

7. On the Fisheries side development has been rapid in some directions and steady in others, and the fisheries areas have been organised into three main "Regions" each under a fully qualified and trained Fisheries Officer assisted by a Fisheries Assistant and a force of trained Fish Guards. Fish production has been stepped up, new fisheries opened, dams and lakes stocked, improved equipment and methods introduced, and marketing facilitated. New craft have been demonstrated and training in boat-building introduced, while a start has been made in stocking trout in the rivers of Mt. Elgon, Ruwenzori and north Acholi.

8. Fish farming is developing with rapidly increasing momentum and the Department's experimental and demonstration fish farm at Kajansi, which only two years ago was a block of dense tropical rain forest, already covers 20 acres of specially constructed fry and production ponds, feeder furrows and ancillary buildings. This work is under the direct supervision of a specialist Fisheries Officer, assisted by a Fisheries Control Officer, a Fisheries Assistant and trained Fish Guards, and the extension of their work has already reached as far as Acholi in the north and Kigezi in the south.

PART I—HEADQUARTERS, GAME AND FISHERIES

SECTION I—ADMINISTRATION

GENERAL

9. *New Form of Report.*—Previously the Annual Reports of this Department have covered the period of the calendar year. As a result the preparation of the Report, which in recent years due to the expansion of the Department and its activities has become no small task, has clashed with the main touring season, i.e. the dry weather at the beginning of the year. This was further aggravated by the recent change in the financial year resulting in the work of the preparation and finalisation of estimates also coinciding with the best touring season. It was therefore approved that the Game and Fisheries Department Annual Reports should in future cover the period of the financial year and not the calendar year, but for the sake of continuity, accuracy and simplicity, and to assist in the early production of the Report, it was agreed that the majority of the statistics and statistical tables should continue as before to refer to the previous calendar year. To facilitate the institution of these arrangements the present Report covers a period of 18 months from 1st January, 1954, to 30th June, 1955.

10. It has been decided that in this and subsequent Annual Reports of this Department the method of reporting used by certain other Departments and territories will be adopted, namely, the description of Departmental activities on an individual regional basis. This may result in a more detailed report and some repetition may be inevitable, but it is felt that the Report in this form will be more valuable and easier for reference purposes for readers in the Protectorate, and by simplifying its preparation will facilitate earlier publication in each year.

11. *New Offices.*—In April the headquarters moved from its previous cramped accommodation in Entebbe to new offices on the shores of the lake, between the Geological Department and the pumping station. The new buildings contain, besides extra much-needed office and store space, a library and museum room with built-in aquarium tanks, and an armourer's workshop. The burden of paper work has felt much lighter in these pleasant surroundings!

STAFF

12. *Assistant Warden.*—The Assistant Warden who had done so much to assist in the expansion and reorganisation of the Department transferred to a similar post in the Kenya Game Department in June 1954. He was

PART I—HEADQUARTERS, GAME AND FISHERIES

SECTION I—ADMINISTRATION

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12. *Assistant Warden.*—The Assistant Warden who had done so much to assist in the expansion and reorganisation of the Department transferred to a similar post in the Kenya Game Department in June 1954. He was

replaced by an officer who had recently retired after many years in the Sudan Political Service. (For further details see Staff List in the Appendices to this Report).

13 *Armourer*.—After many difficulties and delays an Armourer was finally recruited, and at the close of the period under review was completing a refresher course in sporting arms in Birmingham. He is now established in Entebbe.

14. *Clerical Staff*.—A post of Stenographer/Secretary was approved with effect from the 1st July, 1954, and filled by local recruitment. Although this has helped to ease the strain the general position in regard to clerical staff can only be described as serious. Better quality rather than greater quantity of clerical staff is what is urgently required, but really competent clerks are at present at a premium, and almost impossible to obtain.

EXPENDITURE AND DIRECT REVENUE

15. Figures are as follows:—

			£
Expenditure—January to June, 1954	...	...	36,911
July, 1954, to June, 1955	...	...	67,903
Direct Revenue—January to June, 1954	...	...	13,741
July, 1954, to June, 1955	...	...	29,891

These figures by themselves can be misleading. The direct revenue is derived entirely from game licence fees and the sale of "control" ivory. To this can be added revenue from customs dues on such items as arms and ammunition and equipment used in the fishing industry, and indirect revenue from the tourist industry in relation to game. The fisheries side of the expenditure must be considered in relation to the control and development of a fishing industry now worth nearly £1,000,000 per annum.

16. The Revenue was derived as follows:—

(a) Sale of ivory, rhinoceros horns and hippo teeth:

			£
January to June, 1954	...	...	8,985
July, 1954, to June, 1955	...	...	18,694

(b) Game licences:

January to June, 1954	...	...	4,756
July, 1954, to June, 1955	...	...	11,197

Receipts from (a) show a proportionate increase of nearly 40% for the period January to June, 1954, due to a very similar proportionate increase in the weight of ivory sold, the average price being much the same as in 1953. For the period July, 1954, to June, 1955, receipts from ivory sales were nearly 44% higher than for the calendar year 1953, mainly due to a sudden rise of over 21% in the average price of ivory. Receipts

from (b) show a proportionate increase of over 10% for the period January to June, 1954, and over 30% for the period July, 1954, to June, 1955, both in relation to the 1953 calendar year figures. This was due to an increase in the number of Visitors' (Full) Game Licences, Visitors' Elephant Licences, Residents' Second Elephant Licences and Bird Licences taken out.

17. Game and Special Licences issued:—

	July, 1954 to June, 1955	Jan., 1954 to June, 1954	1953
Residents' (Full)	390	210	435
Visitors' (Full)	5	—	2
Residents' (Fourteen-day) ..	5	4	6
Visitors' (Fourteen-day) ..	10	8	9
Residents' First Elephant ..	171	66	173
Residents' Second Elephant ..	84	18	66
Visitors' First Elephant ..	3	—	2
Visitors' Second Elephant ..	1	—	—
One Black Rhinoceros ..	6	—	4
Bird	2,237	1,555	1,903

18. The total number of special elephant licences taken out has increased slightly but still remains within reasonable bounds.

19. At the ivory auctions held at Mombasa, the average price realised per lb. was Shs. 14/16 in April, 1954, Shs. 17/12 in December, 1954, and Shs. 17/62 in June, 1955, compared with Shs. 14/79 and Shs. 14/45 in 1953.

20. The total weights of ivory, etc., sold and prices realised at the Mombasa auctions were as follows:—

	Weights	Gross price realised	Approximate average price per lb.
	<i>lb.</i>	<i>£ s. cts.</i>	<i>Shs. cts.</i>
April 1954—			
Ivory	12,503½	8,852 16 40	14 16
Rhino horns	41½	131 10 46	64 15
Hippo teeth	4½	1 1 00	5 25
December 1954—			
Ivory	10,437½	8,937 9 35	17 12
Rhino horns	62½	239 2 67	77 44
Hippo teeth	2½	0 12 25	4 90
June 1955—			
Ivory	10,306½	9,080 9 15	17 62
Rhino horns	128½	436 16 36	68 21

21. A total of 12,503½ lb. of ivory was actually sold in the period January to June, 1954, and 20,744 lb. in the financial year period July, 1954, to June, 1955, as compared with 17,600½ lb. in the calendar year 1953. The amount sold in the 1954/55 financial year showed an increase of 3,143½ lb. on the 1953 calendar year figure, or an increase of 18%.

22. The average price of rhino horn which, at the November, 1953, auction rose to the previously unprecedented height of Shs. 70/10 per lb., has continued to maintain this surprising level. At the April, 1954, auction it dropped slightly to Shs. 64/15 per lb., but in the December, 1954, auction rose again to a new record peak of Shs. 77/14 per lb. In the June, 1955, auction it dropped slightly again to Shs. 68/21 per lb. The reason for the sudden increase in popularity of this interesting product is obscure.

23. *Uganda ivory, etc., statistics for the calendar year 1954, as supplied by the Commissioner of Customs, Mombasa:—*

(a) Balance in store at Mombasa on 31st December, 1953:—

	<i>lb.</i>
Ivory	5,018
Rhino horn	8½
Hippo teeth	3½

(b) Received at Mombasa between 1st January, 1954, and 31st December, 1954:—

Ivory	23,782
Rhino horn	192¾
Hippo teeth	7¼

(c) Balance in store at Mombasa on 31st December, 1954:—

Ivory	5,858½
Rhino horn	130½
Hippo teeth	—

Ivory figures:—

Balance at Mombasa on 31st December, 1953 ...	5,018
Received at Mombasa during 1954 ...	23,782
	<hr/>
	28,800
	<hr/>
Sold during 1954	22,941½
Balance at Mombasa on 31st December, 1954 ...	5,858½
	<hr/>

PART II—GAME

SECTION I—ADMINISTRATION

GENERAL

24. *The Public's Attitude to Wild Life.*—The last strongholds of wild life in the Protectorate continue to be threatened by the spread of cultivation, demands for new resettlement areas, and the lack of a responsible attitude towards the necessity for the conservation of wild life which is everywhere apparent among the general public. Only a strong lead by a Central Authority while there is still time, followed by a generation of education, will put this right.

25. The population of the Protectorate as a whole is apparently slow to realise the fact that in the territory's wild life they have a natural resource of a kind unequalled in any part of the world outside East Africa. A few pay lip service to the principles of game conservation, but the majority are apathetic. This attitude has got to be changed, in order that future generations may not be deprived of the privileges which their fathers have enjoyed.

26. *Wild Life Policy.*—It has long been apparent that a more definite policy in regard to the practical conservation of wild life in the Protectorate has been required. Such a policy has now been laid down in the Report of the Agricultural Productivity Committee published in November, 1954. In the section of their report entitled "Game in Relation to Land Use", they made the following statements:—

"When man and game compete for land, game is bound to give way; and in the long term the ultimate fate of larger game animals *in areas scheduled for full agricultural development* can only be extermination. National Parks have been established in order that the areas which they occupy can be given over entirely to wild fauna and flora in perpetuity, but outside National Parks with increasing pressure of population on the land we envisage that the areas which are available to wild life will steadily diminish as they are encroached on.

"Nevertheless game has a valuable recreational appeal, and as a result makes a contribution to the national economy through the tourist industry; it has scientific and educational value, and it can also be important as a local protein food supply especially in areas where owing to the presence of tsetse cattle cannot be kept. There are unpopulated or sparsely populated areas, for example in Karamoja and Acholi, where owing to the comparative unsuitability of the climate, soil, shortage of water or the presence of tsetse, it is not likely that the land will be

developed for human occupation for many years. *We consider that in such areas every effort should be made to conserve game as an asset outside National Parks* so long as more important interests of the human population are not prejudiced.” (*The italics are mine—Game Warden*).

27. In regard to the value of game as a local protein food supply, as mentioned in the previous paragraph, the reader is recommended to refer to the report on the Lake Albert Range in Part II—Section IV of this Report—in which the Game Ranger quotes what can only be described as astounding figures for the value of game to Bunyoro District.

28. *Education and Propaganda*.—There is a real need for education and propaganda designed to impress on the general public the necessity for practical game conservation. A start has been made during the period under review by the giving of lectures and film shows by members of the headquarters staff to the Chiefs' Courses at the Local Government and Community Development Training Centre in Entebbe, to schoolchildren, societies and others. In certain districts Game Rangers have also done their part, but one wonders how much is absorbed and how much is believed, for as the old adage puts it “none is so deaf as he who will not hear”. This is borne out by the comments of the Protectorate Agent, Mubende, which are included in the Report on the Western Range, in which, in the section on elephant control, he comments on the magnitude of the falsified reports of game damage submitted to him.

29. *Game Rangers*.—Game Rangers are not posted on a district or provincial basis but are stationed so as to be in the best position to control and supervise the various main game regions. For ease of reference it has been decided to follow the example of Tanganyika Territory and name these regions “Ranges”. The following Ranges have now been named for the Protectorate:—

- (a) Northern Range, headquarters Kitgum;
- (b) West Nile Range, headquarters Moyo;
- (c) Karamoja Range, headquarters Moroto;
- (d) Lake Albert Range, headquarters Masindi;
- (e) Western Range, headquarters Fort Portal;
- (f) Southern Range, headquarters Mbarara.

Further details of these Ranges are given in the Appendices to this report.

STAFF

30. *Game Rangers*.—Apart from absences due to leave periods the Department was, with one exception, up to its full strength in Game Rangers for the whole period under review. A vacancy occurred in Southern Range on the death of the Game Ranger on the 13th July, 1954, until the 7th December, 1954, when a new Game Ranger was appointed on transfer from the Tanganyika Game Department.

31. *Game Assistants*.—A second Game Assistant was appointed in September, 1954, and a third in October, 1954; they are both ex-K.A.R. The first of these was posted to Northern Range, and the second to Southern Range. This recently-created post continues to prove its value.

32. *Game Guards*.—To improve the discipline and control of Game Guards, and to encourage individual initiative, a simple system of ranks with the opportunity of promotion on merit has been introduced. At the end of the period under review the authorised force of Game Guards (including Game Scouts and Gunbearers) consisted of 12 Head Game Guards, 32 Senior Game Guards, and 66 Game Guards.

33. *Biologist*.—In the estimates for the present financial year, approved at the end of the period under review, the post of a Biologist to work on fauna matters has been approved for the Game and Fisheries Department. This is felt to be a big step in the right direction which will help in formulating sound game management plans for the Protectorate.

34. *Death*.—The Game Warden has, with deep regret, to record the death of the following member and honorary member of the Department:—

Major R. E. P. Wyndham, M.C., Fisheries Officer: 16th September, 1950, to 30th April, 1953, and Game Ranger: 1st May, 1953, to 13th July, 1954, who died at Mbarara on the 13th July, 1954, as a result of injuries received in an encounter with a lion.

K. de P. Beaton, Director and Chief Warden, Uganda National Parks, from 1st August, 1952, to 21st October, 1954, and Honorary Game Ranger, who died at Entebbe on the 21st October, 1954.

ILLEGAL KILLING OF GAME AND BREACHES OF THE GAME LAWS

35. This subject is dealt with in detail in the reports from the Ranges from which it will be seen that illegalities are still widespread. By far the greatest menace to wild life continues to be the wire cable snare, the use of which appears to be on the increase. This cruel, and frequently wasteful, method of killing is also a public menace, as dangerous animals, such as buffalo and elephant, frequently escape with the wire biting into some part of their bodies, to become a danger to often innocent passers-by. The number of persons killed or injured by these animals appears to be on the increase and departmental staff in the course of their duties continue to be charged, unprovoked, by these wretched beasts on numerous occasions. This is a menace which it is difficult to eradicate, and a more enlightened public opinion and stiffer penalties for the few offenders who are actually caught and convicted are required.

36. Overshooting on licence also continues to be a popular pastime, and forms another serious threat to the remaining stocks of game. Here again a more enlightened public opinion and stiffer penalties for offenders are required.

INCREASE IN WEAPONS AND HUNTING WITHOUT LICENCE

The following comparative table shows the recent trend in the ratio between Game Licences issued and licensed firearms possessed:—

Year	Rifles	Shotguns	Combina- tion arms (Gun and Rifle)	Muzzle Loaders	Resident's Game Licences issued	Bird Licences issued
1947	883	1,779	10	—	274	932
1951	1,742	2,765	24	—	516	2,016
1952	1,779	2,958	17	—	426	2,023
1953	1,939	3,110	16	—	435	1,903
1954	2,010	3,340	19	2	409	2,181

In 1954 for every Resident's Game Licence issued there were 4.91 licensed rifles as against 4.48 licensed in 1953.

LEGISLATION

37. Legislation affecting game was as follows:—

(a) *Legal Notice No. 169 of 1954*—which amends the portions of the third and fourth schedules to the Game Ordinance, relating to hippopotamus, by abolishing the proviso under which they were previously unprotected in certain parts of the River Nile;

(b) *Legal Notice No. 207 of 1954*—which limits the number of buffalo which can be shot on a Full Game Licence to six, and on a 14-day Game Licence to two;

(c) *Legal Notice No. 261 of 1954*—which lays down a close season for guinea-fowl in the newly-created Bukedi and Bugisu Districts in place of the old Mbale District;

(d) *Legal Notice No. 247 of 1954*—which delegates certain powers held by the Governor under the Game Ordinance to the Secretary for Agriculture and Natural Resources (now Minister of Natural Resources), by virtue of the Interpretation and General Clauses Ordinance;

(e) *Legal Notices Nos. 37, 61 and 123 of 1954*—by virtue of which, in the interests of the rinderpest control operations, close seasons for all animals were imposed for varying periods in the districts of Acholi, West Nile (including Madi), Lango and Teso;

(f) *Legal Notice No. 28 of 1955*—which creates the Bugungu Elephant and Hippopotamus Sanctuary in the area to the west of that part of the Murchison Falls National Park lying to the south of the Victoria Nile, which was originally Game Reserve;

(g) *Legal Notice No. 29 of 1955*—which abolishes the old Bunyoro and Gulu Game Reserve upon which the Murchison Falls National Park was superimposed.

LICENCE

the recent trend in the ratio of firearms possessed:—

Muzzle Loaders	Resident's Game Licences issued	Bird Licences issued
—	274	932
—	516	2,016
—	426	2,023
—	435	1,903
2	409	2,181

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ws:—

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which limits the number of licences to six, and on a 14-day

which lays down a close season in the Bugisu Districts in place

which delegates certain powers of licence to the Secretary for the Minister of Natural Resources), the Clauses Ordinance;

1954—by virtue of which, operations, close seasons for in the districts of Acholi,

which creates the Bugungu area to the west of that lying to the south of the ve;

abolishes the old Bunyoro Murchison Falls National Park

38. *Draft Legislation.*—Much work has been carried out on the drafting of amending legislation designed to make the game laws more effective under present-day conditions.

NATIONAL PARKS, GAME RESERVES AND SANCTUARIES

39. *National Parks.*—No new National Parks were proclaimed in the period under review, but the development of the Queen Elizabeth and Murchison Falls National Parks has progressed apace, and they are now a popular attraction for both visitors and residents. A sad blow was the death on the 21st October, 1954, of Mr. K. de P. Beaton, the first Director and Chief Warden of the Uganda National Parks, to whose imagination, experience, drive and energetic leadership the rapid and successful development of the Uganda National Parks owes so much. He has been succeeded by Mr. R. M. Bere, late Provincial Commissioner, Northern Province, Uganda. The Game Warden has continued to be a member of the Uganda National Parks Board of Trustees. The highlight of the year was the visit of Her Majesty Queen Elizabeth, accompanied by His Royal Highness the Duke of Edinburgh, to the Queen Elizabeth National Park in April, when she officially opened this Park, which she had graciously consented should be named after her. Full details in regard to the development of the Parks is contained in the official annual reports of the trustees.

40. *Game Reserves.*—No new Game Reserves were proclaimed during the period under review, but the old Bunyoro and Gulu Game Reserve, on which the Murchison Falls National Park had been superimposed, was abolished with effect from the 1st April, 1955. This has had the effect of throwing open completely an area of some 140 square miles between the eastern boundary of the portion of the Murchison Falls National Park which lies in Bunyoro, and the original Game Reserve boundary line to the west of the Masindi/Atura Road; and the partial opening to hunting of the old Game Reserve area between the western boundary of the Bunyoro portion of the Murchison Park and Lake Albert. The latter area has, however, been retained as an elephant and hippopotamus sanctuary. Details in regard to the existing Game Reserves are included in the reports from the Ranges.

41. *Sanctuaries.*—As mentioned in the previous paragraph, a new Sanctuary entitled "The Bugungu Elephant and Hippopotamus Sanctuary" was created in the area between the western boundary of the Bunyoro portion of the Murchison Falls National Park and Lake Albert, with effect from the 1st April, 1955. This is designed to protect the normal seasonal migration of elephant to the lake shore areas from the National Park, and the hippo population which is of value to the fisheries. Details in regard to the various sanctuaries in the Protectorate will be found in the reports from the Ranges.

GAME TROPHIES

42. Return of tusks from elephants shot by licence holders during the calendar year 1954:—

District	Under 10 lb.	10 lb. and over	20 lb. and over	30 lb. and over	40 lb. and over	50 lb. and over	60 lb. and over	70 lb. and over	80 lb. and over	90 lb. and over	100 lb. and over	Total Tusks
Mengo ..	—	—	13	15	6	1	1	—	—	—	—	36
Mubende ..	—	1	7	8	4*	3	—	—	—	—	—	23
Masaka ..	—	—	—	—	—	—	—	—	—	—	—	—
Ankole ..	—	4†	19	9	2	—	—	—	—	—	—	34
Toro ..	—	2	17	17	11	8	1	2	—	—	—	58
Kigezi ..	—	—	1	3	6	2	—	—	2*	1	—	15
Bunyoro—	—	—	—	—	—	—	—	—	—	—	—	—
Hoima ..	—	—	5*	6	4	6	4	—	2	—	—	27
Masindi ..	—	—	6	11	12	11	6	4	2	4	—	56
West Nile ..	—	—	6	8	4	—	—	—	—	—	—	18
Acholi ..	—	6‡	6	18	14	3	5	—	—	—	2	54
Lango ..	—	—	4	—	2	4	—	—	—	—	—	10
Busoga ..	—	1	1	—	—	—	—	—	—	—	—	2
Karamoja ..	—	—	—	2	4	1	1	—	—	—	—	8
Teso ..	—	—	—	—	2	—	—	—	—	—	—	2
TOTAL ..	—	14	85	99	71	39	18	6	6	5	2	345
Percentage distribution of total tusks by weights ..	—	4.06	24.64	28.69	20.58	11.30	5.22	1.74	1.74	1.45	0.58	100%

* 1 single tusker.

† 2 tusks underweight—confiscated.

‡ 6 tusks underweight—confiscated.

This represents 174 elephants, which is a decrease of approximately 19% on the 1953 figure of 213 elephants.

43. There has again been a decrease in the number of large tuskers shot on licence, 19 elephants with tusks of 60 lb. and over being shot in 1954 as compared with 21 in 1953 and 29 in 1952. 57% of all tusks obtained were under 40 lb. in weight and 29% were under 30 lb. in weight, as compared with 55% and 25% respectively in 1953. The number of tusks obtained by licence holders which were actually exported during 1954 was 338.

44. Sixty leopard skins were exported in 1954, which is 25 less than in 1953. Other trophies exported were 14 lion skins, 4 zebra skins, and 101 blue duiker skins. No ivory curios and no game trophies entered Uganda in transit via the Customs Posts of Kisoro, Merama Hill, Mpondwe, Vurra and Atiak. Ivory continues to enter Uganda from the Belgian Congo in transit through Butiaba. In 1953 the amount was substantial, but detailed figures for 1954 are not yet available from Customs.

SECTION II—ELEPHANT CONTROL

GENERAL

45. The estimated total elephant wastage for the calendar year 1954 is approximately 1,000, which is the same as in 1953. This figure allows for deaths from natural causes and wastage due to poaching.

46. There was a shot on control, but this of elephant shot on licence reasons for which are reported in Section IV.

47. 84 more elephants and 46 more in the Madi District. In the Mubende portion of Southern Range there was a sub shot on control. Elsew

48. Further details reports from the Range exaggerated and even f be as high as ever. An District, and full details

49. The number of District Headquarters under:—

District	No. of Elephant
Mengo ..	23
Mubende ..	25
Masaka ..	8
Ankole ..	30
Toro ..	234
Kigezi ..	23
Hoima ..	12
Masindi ..	107
West Nile ..	25
Madi ..	73
Acholi ..	96
Lango ..	29
Busoga ..	9
Karamoja ..	1
Mbale ..	1
TOTAL ..	696

The average weight last year's figure of 14.14

50. It will be seen Districts respectively ac elephant killed on "cont

46. There was a slight overall increase in the number of elephant shot on control, but this was largely offset by a reduction in the number of elephant shot on licence. The main increase was in Toro District, the reasons for which are given by the Game Ranger, Western Range, in his report in Section IV.

47. 84 more elephant were shot in Toro District of Western Range and 46 more in the Madi portion of the West Nile Range, while there was also an increase in the number shot in Northern Range. In Lake Albert Range there was a substantial reduction, 41 less being shot in Bunyoro District. In the Mubende portion of Western Range, and the Ankole portion of Southern Range, 27 and 14 fewer elephant respectively were shot on control. Elsewhere there were small variations in control figures.

48. Further details in regard to elephant control are given in the reports from the Ranges from which it will be seen that the number of exaggerated and even falsified reports of elephant damage continues to be as high as ever. An outstanding example of this occurred in Mubende District, and full details are included in the report from the Western Range.

49. The number of tusks reported on ivory returns as received at District Headquarters during 1954 from elephant killed on control, is as under:—

District	No. of Elephant	Male	Female	Total Tusks	Single Tuskers	Total Weight
						<i>lb.</i>
Mengo ..	23	13	10	46	—	614
Mubende ..	25	24	1	50	—	669
Masaka ..	8	3	5	16	—	239
Ankole ..	30	22	8	59	1	1,284½
Toro ..	234	117	117	459	9	5,953½
Kigezi ..	23	15	8	46	—	847
Hoima ..	12	5	7	24	—	283
Masindi ..	107	58	49	212	2	3,584
West Nile ..	25	18	7	49	1	738
Madi ..	73	31	42	145	1	2,256
Acholi ..	96	57	39	192	—	3,772¾
Lango ..	29	17	12	57	1	930½
Busoga ..	9	9	—	18	—	505¾
Karamoja ..	1	—	1	2	—	19½
Mbale ..	1	1	—	2	—	56
TOTAL ..	696	390	306	1,377	15	21,752¾

The average weight per tusk is 15·80 lb. which is slightly higher than last year's figure of 14·14 lb.

50. It will be seen from the above that Toro and Bunyoro (Masindi) Districts respectively account for 33% and 15% of the total number of elephant killed on "control"; that is 48% of all "control" elephant were

shot in these two districts as compared to 55% in 1953. These two regions continue to be, as in the past, the major elephant control areas.

51. The following figures show the weight distribution of tusks received at District Headquarters during 1954 from elephant shot on control:—

District	Under 10 lb.	10 lb. and over	20 lb. and over	30 lb. and over	40 lb. and over	50 lb. and over	60 lb. and over	70 lb. and over	80 lb. and over	90 lb. and over	100 lb. and over	Total Tusks
Mengo ..	22	13	9	2	—	—	—	—	—	—	—	46
Mubende ..	20	18	10	4	—	—	—	—	—	—	—	50
Masaka ..	2	10	4	—	—	—	—	—	—	—	—	16
Ankole ..	13	22	8	7	7	—	1	1	—	—	—	59
Toro ..	229	140	58	21	7	3	1	—	—	—	—	459
Kigezi ..	6	22	16	—	2	—	—	—	—	—	—	46
Hoima ..	13	8	2	—	1	—	—	—	—	—	—	24
Masindi ..	64	94	29	11	6	2	5	1	—	—	—	212
West Nile ..	19	18	7	—	—	—	—	—	—	1	—	49
Madi ..	71	48	12	2	2	2	4	2	—	1	1	145
Acholi ..	59	65	31	15	12	8	2	—	—	—	—	192
Lango ..	21	19	5	11	—	1	—	—	—	—	—	57
Busoga ..	—	7	5	—	3	2	—	—	—	—	—	18
Karamoja ..	1	—	—	—	—	—	—	—	—	—	—	2
Mbale ..	—	1	2	—	—	—	—	—	—	—	—	2
TOTAL ..	540	485	198	76	40	18	13	4	—	2	1	1,377

Only ten elephant with tusks weighing over 60 lb. apiece were shot while protecting cultivation, and nearly 74% of the tusks obtained on control were under 20 lb. each.

52. *Found ivory from control areas :—*

District	Under 10 lb.	10 lb. and over	20 lb. and over	30 lb. and over	40 lb. and over	70 lb. and over	80 lb. and over	Total tusks	Total weight
Mengo ..	1	1	7	2	1	—	—	12	lb. 280
Mubende ..	1	1	4	—	—	—	—	6	111½
Toro ..	2	4	—	—	—	—	—	6	48
Kigezi ..	—	—	2	2	—	—	—	4	102
Hoima ..	1	—	1	—	—	—	—	2	33
Masindi ..	2	6	4	—	—	—	—	12	205
Moyo ..	—	—	2	—	—	—	—	2	50
Acholi ..	6	18	12	—	5	2	1	44	823½
Lango ..	—	5	1	1	—	—	—	7	134½
Karamoja ..	2	—	—	—	—	—	—	2	4½
	15	35	33	5	6	2	1	97	1,791½

53. The following figures represent the number of tusks of below and over 10 lb. weight obtained in contravention of the Game Ordinance and confiscated by Government:—

District	Under 10 lb.	10 lb. and over	20 lb. and over	30 lb. and over	40 lb. and over	70 lb. and over	80 lb. and over	Total tusks	Total weight lb.
Mengo	—	—	—	—	—	—	—	—	—
Mubende	—	2	—	—	—	—	—	2	23½
Masaka	—	—	—	—	—	—	—	—	—
Ankole	—	2	—	—	—	—	—	2	29½
Toro	—	2	—	—	—	—	—	2	31½
Kigezi	—	—	—	3	—	—	—	3	98
Hoima	1	2	—	—	1	—	—	4	83½
Masindi	—	—	—	2	—	—	—	2	67
West Nile	—	—	—	—	—	—	—	—	—
Madi	—	2	—	—	—	—	—	2	30
Acholi	2	6	—	—	—	1	1	10	255½
Lango	—	2	—	—	—	—	—	2	37
Busoga	—	—	—	—	—	—	—	—	—
Karamoja	—	—	—	—	—	—	—	—	—
Soroti	—	—	—	—	—	—	—	—	—
	3	18	—	5	1	1	1	29	655½

ELEPHANT HUNTING BY LICENCE HOLDERS

54. During the year, of the elephant shot by licence holders, nearly 57% had tusks of under 40 lb. apiece, as compared with 55% in 1953 and 67% in 1952. 29% were under 30 lb. apiece as compared with 25% in 1953 and 39% in 1952.

55. Statistics of Game, Special Elephant and Bird Licences issued in 1953, January to June, 1954, and the financial year 1954/55:—

			Bird Licences	Resident's (Full) Game Licences	Special Elephant Licences		Total
					1st	2nd	
1953—							
Europeans	..	..	—	143	37	9	46
Asians	..	..	—	56	13	2	15
Africans	..	..	—	236	125	55	180
			1,903	435	175	66	241
1954—January to June—							
Europeans	..	..	—	60	38	13	51
Asians	..	..	—	16	4	—	4
Africans	..	..	—	134	24	5	29
			1,555	210	66	18	84
1954-55—July to June—							
Europeans	..	..	—	115	42	19	61
Asians	..	..	—	39	10	6	16
Africans	..	..	—	236	119	59	178
			2,237	390	171	84	255
Percentage increase or decrease in numbers of licences issued in 1954/55 financial year as com- pared with 1953			17·5% increase	10·34% decrease	2·3% decrease	27·27% increase	5·81% increase

Of all Residents' (Full) Game Licence holders in the financial year 1954/55:—

(a) 44% took out First Elephant Licences as compared with 40% in 1953;

(b) over 21% took out Second Elephant Licences as compared with 15% in 1953.

SECTION III—GENERAL

DISEASES OF GAME

56. *Rinderpest*.—The serious rinderpest outbreak which entered the Acholi and West Nile Districts in early 1953 from the Sudan continued to advance slowly southwards. The intensive operations conducted by this Department in an attempt to halt the advance of the disease among game (see paras. 309 to 322, 1953 Annual Report) although not successful in stopping the spread of the disease, halted it temporarily and finally slowed it up long enough to enable the Veterinary Department to complete their emergency inoculation programme in the main cattle areas which had been seriously threatened.

57. By the end of March the disease had infected buffalo in the Murchison Falls National Park to the north of the Victoria Nile, and the Belgian Congo authorities reported rinderpest in game animals at scattered points in the Congo to the west of Lake Albert. By mid-June the disease had appeared to the south of the river Nile in the Murchison Falls National Park and unconfirmed reports were received later of rinderpest in a few game animals in the area to the north of Butiaba in Bunyoro District. However the outbreak was steadily losing its virulence and before the end of the year had died out.

58. Further details in regard to the anti-rinderpest operations are given in the reports of the Game Rangers, Northern Range and West Nile Range.

59. *Anthrax*.—There was an outbreak of anthrax among elephant in the Pakuba and Buligi areas of the Murchison Falls National Park between the Victoria and Albert Niles in 1954. Twenty-one dead elephants were found, all of them bulls, some of them, sad to say, being beasts carrying very heavy ivory. The epidemic apparently lasted for about two months and strangely enough only affected the animals in this quite small area of the Park.

NOTES OF GENERAL INTEREST

60. *C.S.A. Specialist Meeting on Methods of Estimating Wild Animal Populations*.—This Meeting was held from the 13th to the 17th April, 1954, at Bukavu, Ruindi and Rutshuru in the Belgian Congo, under the chairmanship of Dr. E. B. Worthington, Secretary General of the C.S.A. The following members were nominated by C.S.A.:—

Dr. T. G. Nel, Biologist to the Kruger National Park,

Dr. A. J. Haddow, Director, East African Virus Research Institute,
Entebbe,

Dr. P. Pirlot, Chef de Centre, IRSAC,

Dr. C. H. N. Jackson, Chief Entomologist, E.A.T.T.R.R.O.

Among others, Major R. E. P. Wyndham, M.C., Game Ranger, Game and Fisheries Department, Uganda, attended as an observer.

61. The Meeting was arranged in three sections; firstly discussion at the C.S.A. Headquarters at Bukavu of all possible methods of wild animal enumeration appropriate to African conditions; secondly, the testing out by members of the Meeting of one or two simple methods in an area of abundant wild animal populations in order to assess their suitability; thirdly, decisions on which methods to recommend as appropriate for general use. The most suitable area for dense animal populations within reach of Bukavu was that portion of the Parc National Albert near Ruindi, so members of the meeting visited this area for two days and were able to achieve their main purpose. After the Meeting several of its members took the opportunity of testing the methods advocated. For example, a series of counts was made in the Queen Elizabeth National Park in Uganda at the north end of Lake Edward. Although the proportions of species were shown to be somewhat different from the Parc National Albert at the south end of that lake, the densities of animals per unit area of similar country proved to be remarkably similar. These supplementary trials helped to confirm the usefulness of the methods advocated.

62. *Important Visitors.*—After the C.S.A. Meeting mentioned above, Dr. E. B. Worthington, Secretary General, C.S.A., and Dr. T. G. Nel, Biologist to the Kruger National Park, had discussions with the Game Warden at Entebbe.

63. During February, 1955, Dr. H. Nordhoff, head of the Volkswagen Organisation, and Baron von Oertzen visited the Protectorate, and had a most successful hunting safari in Karamoja.

64. At the end of March, Dr. Fritz Appelman, Curator of the Rotterdam Zoo, visited Uganda and spent some time in West Nile District with Mr. John Seago, who was collecting live animals in that area. The Game Warden had several very interesting discussions with Dr. Appelman, who was for many years in the Forestry Service in the Dutch East Indies. One of Dr. Appelman's observations was of particular interest to those concerned with game conservation; he remarked that—"A forest without its fauna is like a cathedral without its congregation"!

65. *Fauna Course.*—A second Fauna Course (the first was held in 1953) was held in London between the 20th September and the 23rd October, 1954. It was organised by the Colonial Office and made possible by the kindness and co-operation of the Zoological Society of London, the British Museum (Natural History) and the Royal Veterinary College. Two

Game Rangers and two Fisheries Officers of the Uganda Game and Fisheries Department, who were on leave in the United Kingdom at the time, attended the Course.

66. The Course was divided into three parts. The first part, held at the Zoological Society, covered the classification of vertebrates, an outline of mammalian and avian anatomy, and the elements of parasitology and haematology. The second part, held at the British Museum, dealt with taxonomy and the chief characters used in systematics, the preparation of specimens, and an examination of the study collections. The third part was conducted at the Royal Veterinary College, where the students studied embryology, the physiology of reproduction, and the collection of material. An important part of the Course was discussions on such subjects as game conservation policy, which were attended by several eminent people.

67. *Honorary Game Rangers*.—Those appointed during the period under review were:—

Dr. A. J. Haddow,
Mr. M. Charters,
Mr. B. Cooper,
Mr. H. R. Clifford,
Mr. E. A. Fangoudis,
Mr. F. Poppleton,
Mr. J. B. C. Greenway,
Mr. K. H. F. Scott,
Dr. G. S. Nelson,
Mr. C. E. F. Williams.

A list of all the present Honorary Game Rangers is given in the Appendices to this report.

68. *Leopard Eats Cotton?!—*A request was received by this Headquarters, from a district which shall be nameless, for the payment of compensation to a shamba owner who had trapped a leopard which he claimed had been spoiling his cotton. The following reply was sent:—

“This is the first case recorded in history of a leopard indulging in a non-carnivorous diet, and I am afraid the claim for compensation is as difficult to swallow as the leopard doubtless found the cotton. Any details of the method of spoiling and the quantity (if any) consumed would be of interest”.

69. *Tests for Game Licences*.—These tests, which have now been in operation for some time, have proved most successful in weeding out those persons to whom it is obviously undesirable to issue Game Licences. They consist of a simple shooting test and an oral test on the applicant's knowledge of the game laws and the various vital spots on game animals. They are designed to prevent cruel and unnecessary wounding of animals by

incompetent persons, and breaches of the Game Ordinance through genuine ignorance of the law. The idea has raised much interest in other territories in Africa and has been favourably commented on in many quarters.

70. *Death of Major R. E. P. Wyndham, M.C., Game Ranger, Southern Range.*—Major Wyndham died on the 13th July, 1954, as a result of injuries received in the course of his duty.

71. For some time lion had been a nuisance in Nyabashozi County of Ankole District, and a number of complaints had been received by the Game Department. It became apparent early in 1954 that there were too many in the region which were killing off the game, raiding cattle from time to time, and frightening many people by attempting to enter their camps at night. It is also not long since this area had a bad reputation as the haunt of maneaters.

72. It was decided that their number would have to be reduced, and on the night of July 12th/13th, Major Wyndham, accompanied by the Game Warden and two visiting Swedish hunters, sat up over a kill in the Sanga area, 28 miles east of Mbarara. One of a large pride of lions which came to the kill was severely wounded and followed up by the party at dawn. While being tracked down, a second lion was encountered and killed. The wounded beast was flushed from thick cover after long and careful tracking, but got away despite being hit again. It was finally located in a small but very thick patch of bush. While the party were deploying themselves preparatory to driving it out, the lion unexpectedly charged Major Wyndham at close quarters in thick cover. During the ensuing fracas the lion was killed, but Major Wyndham was very seriously injured, both by the lion and an accidental bullet wound, and died half an hour later while being taken into Mbarara. He was buried in Kampala.

73. Major Wyndham was born in Kampala on the 19th July, 1913—his father, a regular Army Officer, being one of the first District Commissioners. He was educated at Uppingham and the Royal Military College, Sandhurst, and joined the Indian Army in 1933. He was posted to the 3/6th Rajputana Rifles and saw active service on the North West Frontier, where, in 1937, he was awarded the Military Cross for gallantry.

74. He attended the Staff College, Quetta, and later became an instructor at several training establishments. In 1945 he became second in command of a parachute battalion of the Indian Airborne Division.

75. He left the Indian Army in 1947 and went to Kenya at the end of 1948. After trying his hand at various things he joined the Uganda Game and Fisheries Department in September, 1950, as a Fisheries Officer, and served first in the Lakes George/Edward region and later on Lake Albert. His heart was in game work, however, and in May, 1953, he was appointed as a Game Ranger. After attending the first Fauna Course in the United Kingdom in October, 1953, he was posted on his return from leave as Game Ranger in charge of the Southern Range. He was full of enthusiasm and plans for the better conservation of game for the future.

76. Widely read, and of an academic and studious frame of mind, he was also a good rifle shot and a keen hunter/game preservationist. He was very interested in promoting the scientific study of wild fauna and the educating of the general public to a better understanding of its value; in fact his vigorous crusading in the cause of game preservation was just beginning to take effect when his tragic death occurred.

77. *The Passing of Four Old-timers*.—During 1954, four of the “old-timers” connected with Uganda and its wild life passed on to happier hunting grounds. They were F. G. Banks, Capt. W. D. M. Bell, Sir William Gowers and K. de P. Beaton.

78. *F. G. Banks*, or “Deaf” Banks as he was called as a result of an affliction which he never allowed to interfere with his hunting, was one of the great elephant hunters of Uganda. In his earlier days he was one of the band of adventurous spirits who poached ivory in the Lado Enclave. Later he joined the newly formed Uganda Game Department, to become one of its first Game Rangers. He retired in November, 1940, and returned to England. Life at home, however, did not suit him, and he returned to Fort Portal where he lived for a number of years. However, he eventually returned to England once again, but died shortly afterwards on the 31st May, 1954, aged 73.

79. *Captain W. D. M. Bell, M.C.*, better known as “Karamoja” Bell, was one of the greatest elephant hunters of all time. He earned his famous nickname as a result of his exploits as an ivory hunter in what was then the wild and unadministered territory of Karamoja, exploits which are vividly described in his famous book *The Wanderings of an Elephant Hunter*. He also hunted elephant in other parts of Africa including the Lado Enclave, but finally retired to his home in Scotland, where he died at the end of June, 1954, aged nearly 80.

80. *Sir William Frederick Gowers, K.C.M.G.*, was Governor of Uganda for seven years, from 1925 to 1932. His arrival in the Protectorate coincided with the formation of a new department, the Game Department, and with his keen interest in wild life he did much to help this “stunt” department, as it was often caustically called in its early years, particularly in 1927 when its fate hung in the balance. Sir William was responsible for affording absolute protection to the white rhinoceros in Uganda, and both before and after his retirement he carried out research on a number of fauna problems. For many years he was a prominent member of the Fauna Preservation Society and not long before his death on the 7th October, 1954, aged 79, he became its Vice-President.

81. *K. de P. Beaton* was by far the youngest of the four, in fact he was only 49 when his untimely death occurred on the 22nd October, 1954. Brought up in Kenya, he farmed in that territory for a number of years, and as a keen hunter and naturalist he learned a lot about the wild life of East Africa. After war service with the King’s African Rifles he joined the Royal National Parks of Kenya, and was responsible for much of the

development of that organisation, and in particular for the very successful development of the Nairobi National Park. He visited Uganda in 1951 to advise on the creation of National Parks in the Protectorate, and early in 1952 he was appointed as the first Director and Chief Warden of the new Uganda National Parks organisation, taking up his appointment on the 1st August that year. It was largely due to his imagination and energetic leadership that the two Uganda National Parks have been developed so successfully and rapidly.

SECTION IV—REPORTS FROM THE RANGES

Northern Range—Game Ranger's Report

INTRODUCTION

82. The first half of the year 1954 was spent mainly on anti-rinderpest operations, and the latter half on elephant control. The six months, January to July, 1955, was largely spent on anti-poaching activities, and obtaining an up-to-date picture of the distribution of game: Due to the nature of the country, and the long grass during the rainy season, it is only possible to observe the majority of the game for four to five months of the year. The rest of the time only the larger game animals such as elephant and buffalo can be seen, and travel is difficult.

83. In Lango, now that Kwanja and Maruzi Counties are being cleared of game because of the threat from the tsetse fly, there is little left apart from a few herds of buffalo and scattered groups of animals mainly along the Aswa or Moroto river, and the small area around Ngotokwe, bordering on Karamoja, where rhino, roan, hartebeest, topi and eland were seen, but not in any number. However, there are still sitatunga on the shores of Lake Kwanja.

84. Acholi is a difficult district to assess, for reasons stated above. The main game areas are north Chua, north-west Lamwo, and the Gulu/Madi Elephant Sanctuary. Game is still to be found scattered over most of the rest of the country, but not in any numbers, due to a variety of reasons, mostly spread of population and cultivation, and the subsequent ease of access to the game areas by poachers. Elephant are still the main attraction and can be found in numbers over most of the district throughout the rainy season.

85. With the introduction of the posts of Game Assistant and Head Game Guard, more time was available for anti-poaching work, and the results in this short period have proved gratifying. It is hoped to improve on this in the coming year.

STAFF

86. Staff was brought up to full strength of one Game Ranger, one Game Assistant, one Head Game Guard, 11 Game Guards, four Game Scouts, and one Gunbearer. All worked well on both of their main tasks,

that of elephant control and game preservation. Certainly there has been an improvement on the preservation side, and more patrolling and anti-poaching work was undertaken this year, as well as a tighter check on licence holders.

87. One Game Guard was injured by a buffalo, but luckily not seriously; one Game Scout was seriously injured by an elephant, and is still off-duty.

ILLEGAL KILLING AND BREACHES OF THE GAME LAWS

88. *General.*—The creation of the new posts and reorganisation of staff has been a great help, but has brought to light the great amount of poaching and deliberate flaunting of the game laws, which has been strongly suspected in the past, but with which we have previously been unable to deal adequately. All staff were urged to greater efforts in this line, and a number of cases were successfully prosecuted.

89. The Acholi being a hunting tribe, it is often difficult to impress upon them that what is not a crime in their eyes, is in ours. To impress upon them that the human population is increasing, and the game decreasing to such an extent that rigid game laws have to be enforced to ensure its preservation, is nearly impossible; one is always met with the attitude that there is plenty of game left, and if it reproduces, how can it die out?

90. To an extent, it is believed that the dying out of their old way of life is responsible for part of this attitude, and uncontrolled hunting occurs on the slightest excuse. In the old days, they had rigidly enforced rules for hunting, and severe punishments were meted out to those that broke these rules; for instance, nobody would dare, not even the chief, to hunt an area without the permission of the owner of that area—the “Won Tim”—and they would have to pay their dues for such hunting. Apart from the officially recognised tribal hunts held each year, this no longer holds good, and the old men are rarely treated with the respect that they received in the past.

91. Ignorance of the game laws was often responsible for many of the breaches by genuine hunters, and to help them a simple guide in Acholi was printed and distributed to any that wanted one, and a guide is given automatically to each licence holder on taking out his licence. These have been gladly accepted and digested in some quarters.

92. During February last year, three Guards were attacked by elephant which had to be shot. One had a thick wire noose around its leg, which had bitten to the bone; one had been speared, and the other had been shot and speared.

93. Some 40 rhino have been shot to date during tsetse control operations in the Kwania and Maruzi Counties of Lango. Every one was found to be suffering from snare, trap and spear wounds, and often a combination of two.

94. *Ringfiring*.—There was a bad case of ringfiring of a herd of elephant in Agago County in January this year. This occurred during a tribal hunt, when the finding of a large herd of elephant in unburned grass probably proved too much of a temptation. The majority of the herd were burned to death or speared on the spot, and 14 were shot by Game Department staff to put them out of their misery. Two men were killed at a later date by maddened beasts who had escaped the hunt, both at some distance from the scene of the burn. Three ring-leaders are being prosecuted, and the clan responsible will receive a communal punishment. It is believed that between 60 and 70 elephant perished all told.

95. There was another case of ringfiring on the Sudan border of Lamwo County. This was done by people living just inside the Sudan border. Three elephant were found dead, and one rhino. Another nine burnt elephant had to be shot by Department staff.

96. *Wire snares*.—These continue to be by far the biggest menace of all illegal means of killing game, and probably take the biggest toll of animals. Their use is definitely on the increase. This despicable method needs no courage and little skill, and is responsible for a great deal of suffering and wastage, as snares are often not visited for days. The wire can be bought at any little duka, up to practically any thickness. The snare is quickly and easily made, easy to conceal, and laid in a few minutes.

97. Apart from the destruction of game with these wire snares, there is the danger element. Staff are always complaining about being attacked by dangerous game (especially buffalo), which have been caught by leg or head and managed to break the wire, but leaving the noose buried deep in the flesh to cause festering wounds. Many innocent persons have been killed or injured by walking into such dangerous brutes.

98. *Wheel traps*.—These are rapidly dying out in favour of the wire snare. The wheel trap and thong take some considerable amount of time and skill to make.

99. *Pits*.—These have decreased in number rapidly. Again, they take a considerable amount of work.

100. *Illegal Hunting Parties*.—The small illegal hunting party still sallies out, but unless it is on the large scale with nets, comparatively small numbers of game are killed.

101. During January last year, a large party of Madi crossed over to hunt in Acholi, where they ran into two Guards who tried to apprehend them. The Madi immediately set upon the Guards and overpowered them, one Guard receiving a bad beating as well as a spear in the foot. Luckily the Game Ranger passed close by a short while after the incident, and found the distressed Guard (the other had been able to escape). Three of the hunting party were arrested before they could get away, and another twelve were arrested at a later date. They all received severe penalties.

102. *Selling of game meat*.—There are still, unfortunately, a number of people, who should know better, who look upon their arms and game licences as being an easy and lucrative way of earning a living. To catch

these people is very difficult due to witnesses refusing to testify for obvious reasons. Complying with the maximum number of game they are allowed to shoot on the annual licence is looked upon as a joke by everyone. This again is often difficult to prove.

GAME RESERVES AND SANCTUARIES

103. *The Acholi and East Madi Elephant Sanctuary.*—It was unfortunately impossible to visit this Sanctuary during the dry season of 1954 owing to the anti-rinderpest operations, and a long safari during the rains and long grass season is nearly impossible; besides being of little value; even the poachers rarely operate apart from snaring at that time.

104. A two week foot safari was carried out in the Sanctuary in April this year, and much valuable information was collected and work done. The trip was from Alero to the Nile opposite Rhino Camp, where fresh supplies were collected, then due south to the river Aswa, and following the river back to Alero.

105. The journey was mostly through open grassland and parkland, and a most gratifying amount of game was seen, even hippo and crocodile in the small rivers Apa and Ome. Elephants and buffalo were seen every day and were remarkable for their tameness; one could approach quite close to them. They could be found in quite open country at any time of the day, even in the heat, often just standing under the odd shady tree, but otherwise fully exposed. Uganda kob and hartebeest were seen in large numbers, and waterbuck to a lesser degree. Most of the game appeared to be in the region of the river Aswa, and in three hours one morning (between 8 and 11 o'clock) 30 elephant, 12 waterbuck, 50 hartebeest, and between 500 and 600 Uganda kob were seen besides numerous oribi and, later on, buffalo. One herd of kob must have been at least 150 strong.

106. Six poachers' camps were destroyed, including one enormous one with a strong boma of tree trunks surrounding it, which must have taken days to construct. It was nice and snug inside, with sleeping accommodation for about 15 people, and covered in drying racks to disperse the smoke of the fires. A pair of tusks were recovered from some grass nearby. Judging by the number of heads scattered around, some of this party were armed with firearms, and had been in the area for some time. All the camps found were unoccupied, probably because everyone had been warned of the safari, but two men laying wire snares were caught on the return trip.

107. As the border was approached, less and less game was seen, until after crossing it, in a whole day's march between the boundary and cultivation, only two hartebeest and four waterbuck were seen.

ELEPHANT CONTROL

108. Elephant control has continued to form the greater part of the work of the staff, and the period July to December has been a busy one indeed. Complaints have been numerous, some genuine, some not. It has

been impossible to guarantee one hundred per cent protection as this would have entailed a Game Guard to each and every outlying shamba, and the staff having the ability to see in the dark. At the onset of the rains Guards were posted to all the known bad spots, and followed the movements of the herds to try and prevent them entering the cultivated areas. As usual a certain amount of damage was bound to be caused though far less than normally claimed, and people are liable to forget the element of compensation received in the form of the large quantities of free meat obtained from the elephant shot.

109. A lot of damage could have been avoided if the cultivators would make some effort to protect themselves, and not, as in many cases, cultivate right up to the edge of the bush or long grass without any attempt at clearing at all, leaving their crops open to plunder. Not every shamba needs protective measures, generally just the outlying ones.

110. A total of 63 male and 24 female elephant were shot on control in Acholi during 1954, as against 27 male and 46 female in 1953—a total increase of 14. In Lango, 16 male and 7 female elephant were shot as against 13 male only for 1953—a total increase of 10.

GENERAL NOTES ON ELEPHANT

111. *Casualties from Elephant*.—In October, 1954, a Game Guard and Scout on patrol in the country about six miles south of Koich, came across a herd of elephant. The herd got their wind and moved quietly off. The men followed on after allowing a short interval for the herd to get clear, but unfortunately they walked practically into a cow elephant which had remained behind in the long grass, and she immediately charged from close quarters. The Guard just had time to fire one snap shot at her head, which failed to down her, then jumped to one side. The Scout, armed only with a light rifle, turned to run, but tripped and fell, rolling onto his back with his arms outflung. The elephant turned from the shot, and made for the luckless Scout who had fallen, but just as she reached him the bullet took full effect, and she fell, practically on top of the man, one of her tusks piercing his upper left arm completely, and pinning him to the ground. She then staggered to her feet, and without making any further attack on the man, made off into the bush before the Guard could get another shot in.

112. The Guard bound up the enormous wound in the Scout's arm with his puttee, supported by sticks, so effectively that, although when the injured man finally reached Gulu hospital next day it was feared he would lose the arm, after four months in hospital, he was out once more, but with his arm still in plaster. However, it will be a long time before he is fit again, and he is lucky that he still has an arm at all. The elephant was later found dead.

113. Two men were killed by different elephants which had been burned, but escaped, from the illegal ringfiring in Agago County, mentioned earlier. One was killed at Waal and the other at Patonga.

114. The man killed at Waal was an old chap journeying through the bush with a friend, to another village. They were attacked at close quarters, and the old man not being very quick on his feet was soon caught up and despatched. The fury of the attack is even evident in the photographs, taken by the Game Assistant, of the area some days later. This elephant was followed up and speared to death by avenging villagers the next day.

115. The man at Patonga had tried to drive the elephant away from the proximity of his shamba, and was killed by the infuriated beast. This elephant was later shot.

116. *Elephant Maternity Wards.*—It has been noted on several occasions, that where elephant breeding herds have been present in thick bush and wooded regions, large spaces roughly circular had been smashed flat, including quite large trees. These clearings had the appearance of having been deliberately made and not just the haphazard destruction caused by elephant feeding, or in play. The Acholi say that these clearings are deliberately made for, or by, a cow elephant when she is near her time to calve, she lying in the centre, with the rest of the herd surrounding her at a respectable distance, to ward off danger. One such "ward", in more open country, had been formed by trees knocked down and dragged into a circular boma with one small opening. This, the Acholi say, is to help the cow in the defence of her newborn defenceless baby against lions and other predatory animals.

117. *Elephant Warning Systems.*—The Acholi believe that one of the systems used by elephant to warn a herd of approaching danger, if discovered by a beast away from the main group, is for it to fill its trunk with the scent or tainted air, run up-wind of the herd and puff it out, presumably breathing through its mouth in the meantime. The herd all get the warning together, and silently make off to safer climes.

118. What may have been an example of this was witnessed by the Game Ranger recently. On approaching three bulls in the open, two made off at once, but the other, after his initial rush away, swung around and made back towards the caravan of porters, passing quite close, then across the line of march to the front, going at full speed and obviously very frightened, but with the determined air of a mission to complete. Shortly afterwards there was the faint but unmistakable noise of a herd taking to flight. It was discovered later that a herd of about forty elephant had been concealed in a hollow some little distance from where the caravan had halted. This herd was well up-wind, so they could not have smelt the caravan of porters; also, as they were well concealed in the hollow, they could neither have seen them, nor heard anything. Obviously the bull had warned them somehow, but he had not given any audible warning nor did he rush into the herd, but passed up-wind of them and at some little distance. He was in view all the time, and did not pause at all, nor join the herd, but pushed on past them to safety.

119. Another system, according to the Acholi, is as follows: if one of the herd becomes aware of danger, but thinks that they are as yet undetected, and wishes to escape silently, it does not scream out but makes a soft deep "broomp" in its trunk or a soft "paap paap", in a slightly higher tone, when the whole herd take silently to flight. (The Game Ranger has heard the former noise given by an old bull who was quite close to the bush in which he was concealed. It is believed that the bull did not get the scent, but saw a suspicious movement in the bush). If the herd know they have been detected, they make off to the accompaniment of tremendous crashing and screaming.

120. *Panic behaviour of hunted elephant*.—When out with the Game Warden one day, we drew close to a small herd of bulls, and were standing watching them, under a group of trees, when the wind shifted. In the ensuing panic, the elephant crashed into each other and the trees before sorting themselves out and taking to flight. Examining the spot after, the Game Warden found the tips of two tusks, of quite large size, that had been knocked off in the milling around.

NOTES ON THE FAUNA

(a) Mammals

121. PRIMATES. *Baboon*.—Baboons do not appear to be so numerous near cultivation as in some of the other Ranges, and complaints of damage caused by them are few, and these mostly from the region of Patiko and Paimol. This is probably because the Acholi are not afraid to turn out and hunt them with net and spear. Some poison was offered to the Acholi A.L.G. some time ago, together with the services of a trained poisoner to teach others how to use it, but the offer was refused.

122. CARNIVORA. *Lion*.—During January, a large number of buffalo were dying of rinderpest, or being shot, on the river Aswa, and a more than usual number of lion were observed, but oddly enough none of the carcasses seen had been touched by the lion, or yet by hyæna or jackal. The lion of Acholi have been in disgrace this year. Generally they are well behaved unless cornered in tribal hunting. At the end of December, a lion went on a killing spree of goats and chickens in the region of Lamogi. A Guard was sent there to attend to the lion, but one of the villagers would not wait, set off by himself, tracked it down and speared it to death. In January, a lioness killed a cow in the area of Jaber. The annoyed herdsman tried to kill her, but she killed him, so the villagers got together and killed her. A lion making a nuisance of itself between Kitgum and Kitgum Matidi, was hunted down by four spearsmen. It killed one man before being killed itself. A lion which had been stockraiding by Patiko, was hunted down by spearsmen, who wounded it before it escaped. Hearing a woman cry out some time later, the Jago turned out, and much to his surprise found the lion within fifty yards of his house. With commendable courage, he tried to kill it with a shotgun, but must have fired at it at too great a distance, for the lion came for him. Turning to run, he was overtaken by the lion from behind, and badly mauled, losing

one eye. The lion was later speared to death. Sad to say the Jago died in hospital later as a result of his injuries. It may be that this fall from grace during the dry season is due to their natural prey being disturbed and driven away through tribal hunting.

123. *Leopard*.—The leopard is very seldom seen in daylight these days, except during a tribal hunt, when they are flushed by the circle of hunters, and generally a real good old-fashioned scrimmage takes place, during which a number of hunters often get badly mauled before the leopard is despatched.

124. UNGULATES. *Buffalo*.—During March, in the Olilim area of Lango, Guards on the anti-rinderpest operation came across four buffalo, one of which was wounded and made off into some long grass. One of the Guards followed it up, and was charged at close quarters, being knocked down and his rifle broken before he could fire. The buffalo stood over him and tried to hook him, inflicting a wound on the inside of the right thigh and kicking him on the head. Recovering slightly, the Guard grabbed the buffalo by the horns and hung on. After a tussle, when he knew he could not hang on much longer, the Guard pushed the buffalo away from him with his remaining strength, when much to his surprise and relief it ran away, to be followed up and killed by the other Guard. The first man was not seriously wounded and was out of hospital after a couple of weeks.

125. While on his way back from Karamoja one day, Mr. Fazal Haq (Hon. Game Ranger), was stopped at the Kiteny corner by some Africans who told him that a woman and child had been killed on the road by a buffalo. On visiting the spot he found the bodies, and the buffalo lying up in some bushes just off the road. He shot the beast and then found that it had been speared. It is believed that the buffalo had been chased and speared, and had taken refuge in the bush close to the road. Later, a woman with a child on her back passed along the road, whereupon the animal had charged out and killed them.

126. It is believed that the number of buffalo killed by the rinderpest epidemic is more than was first thought, as subsequent trips into country where buffalo formerly abounded have shown that in general only the older beasts have survived, there being a great shortage of youngsters in the herds. In some cases, small local herds have disappeared altogether, the few survivors having moved out of the area completely.

127. *Uganda kob*.—While on safari in the river Aswa region of the Gulu/East Madi elephant sanctuary, where kob abound, a large herd was seen with an all white female in its midst. As seen through the glasses, her colour appeared to be a dirty white, and several others had white patches of varying sizes on them. These were probably the "spotted kob" of which rumours had been heard. Although many other herds were seen in the region this was the only one which contained white or part white specimens. This cannot be too common an occurrence in this part of the country, otherwise it would have been common knowledge.

128. *Hartebeest*.—That the hartebeest can be a pugnacious animal at times is borne out by the fact that on two tribal hunts the Game Ranger attended, two men were injured by these antelope, one in the chest and the other in the shoulder. The method of attack is to lower the head, charge bald-headed at the nearest person, and try to break through.

129. An interesting piece of animal play was witnessed one morning close to camp. Not far away was a small herd of hartebeest, a few oribi and a secretary bird (*Sagittarius serpentarius*), suddenly a young hartebeest broke away from the main herd and charged playfully at the secretary bird, which, surprisingly, seemed to enter into the spirit of the thing, hopping backwards just ahead of the animal with outstretched wings. It did this several times, until the bird got tired of the game, when it wandered off. The hartebeest was then joined by another youngster, and they both charged the oribi, who really did enjoy themselves dashing around. The oribi got so far carried away that they started to play pranks on their elders, stealing up on the mature hartebeest, then suddenly darting under their heads or stomachs, causing much stamping, snorting and shaking of heads, although they seemed most good humoured about it all.

130. Hartebeest although fairly plentiful still, seem to be one of the worst victims of the wire snare, and I have twice come across one still alive in the snare.

131. *Roan Antelope*.—A small herd of nine was seen on the Aswa river opposite Atiak. These grand animals are rapidly disappearing where settlement is taking place, although a fair number are still to be found in north Chua.

132. The Acholi firmly believe that roan antelope eat bones, and state that after rain elephant bones are often found chewed and splintered, with the whole area around showing many tracks of roan, as if standing over the bones which bear the fresh marks of large teeth.

133. *Waterbuck, Bushbuck, Uganda Kob, Oribi, Duiker and Klipspringer*—are still to be found scattered over a great part of the country, but mostly very shy, and nowhere in any numbers except in north-west Lamwo, north Chua and the Gulu/East Madi Elephant Sanctuary.

134. *Sitatunga*—are still to be found in the swamps on the north shores of Lake Kyoga.

135. *Black Rhino*—again found scattered over most of the Range, but only in twos and threes to a large area. The biggest concentration to a small area will have disappeared this year due to Tsetse Control Department's clearance programme in the Kwania and Maruzi Counties of Lango District. However, rapid spread of cultivation and settlement would have meant their finish anyway.

(b) Birds

136. *White Stork (Ciconia ciconia)*.—A very large gathering of these birds was seen in January in Chua County. It was impossible to count

them, but they occupied a stretch of ground some five to six hundred yards long by an average of twenty yards wide, which, if calculated at one bird per square yard, works out at ten to twelve thousand birds.

137. *Abdim's Stork* (*Spenorynchus abdimii*).—Several large gatherings of these birds were observed in October, some settling on trees by the dam near Kitgum.

GENERAL

(a) Diseases of Game

138. *Rinderpest*.—The rinderpest outbreak of 1953 continued into the first half of 1954. In January, there was a large influx of hundreds of sick buffalo from the Sudan, moving past Nimule along the Aswa river. A defence line had already been established, consisting of camps of Game Guards along the Aswa, from the Sudan border to Labworomor, and up the Pager River, so these buffalo had to pass through a series of toll gates as it were, a heavy crop being taken at each gate. The geographical layout of the country, and the time of the year assisted the operations. Being the dry season, the buffalo had to follow the river Aswa, even when shot at they had to come back, as there was no water anywhere else in the near vicinity for such a large body of beasts. Again, when they reached the junction of the Pager and Aswa rivers, they ran into a large camp of Game Guards, and rather than face that barrage they turned up the river Pager, an area already infected, so they could do no further damage. Further Game Guards then cut them off, and the buffalo, greatly depleted in numbers, were dealt with by camps along the Pager. Tsetse Control hunters, kindly lent for the occasion, were posted along a line to the west of the Gulu/Atiak/Nimule road, to intercept any buffalo that tried to break out across the road into the Elephant Sanctuary. They were also posted along a line from Kitgum to Aggu to contain the buffalo to the west. The main danger appeared to be the buffalo following the river Aswa into Lango, and to try and prevent this, the above plan was put into operation. The danger of scattering the buffalo due to shooting was carefully considered, but as buffalo once infected scatter anyway, and the fact that they had to stick to the rivers, making the containing of them easier, it was decided to carry out an intensive shooting campaign. In January, Game Department staff killed 365 buffalo, by far the majority of which were sick Sudan buffalo.

139. In February, it was apparent that the main danger was over, and there were signs that the disease was dying out amongst the buffalo. The shooting was therefore stopped, except for the original plan of containing the herds in Lamwo. Staff reported this month that other animals were dying to a greater extent than previously, the main groups affected being waterbuck, reedbuck, bushbuck, oribi and warthog.

140. From that month onwards, the disease waned rapidly, until in July it was possible to lift all restrictions, which had included a ban on

all private hunting to prevent the disturbance of buffalo and other game in the areas in which they were being contained, and the movement of infected game meat.

141. *Anthrax*.—There was a small outbreak of anthrax in the Sudan border region near Nimule in January, one of the victims being a white rhino. Later in the year, there was an outbreak in the Murchison Falls National Park, and several elephants died of it, unfortunately most of these were big tuskers.

(b) Notes of General Interest

142. *Tribal Hunting*.—There was no tribal hunting in 1954 due to the rinderpest control ban, but it was in full swing again in 1955, although no figures for game killed are yet available.

143. Casualties to the hunters are at times not inconsiderable, especially at the bigger hunts, ranging from having a finger sliced off while cutting the meat up, and being bowled over by a bushbuck, to being tossed by a rhino, or receiving a spear in error. One youth was bitten by a roan antelope on the Pa Lokok hunt.

144. It is noted that the total numbers of animals killed yearly by tribal hunting is decreasing. This may be the result of control measures which were brought into force, or a decreasing game population—probably a combination of both.

145. In 1950, 112 eland were reported as killed in Agago County on tribal hunts. None are found in this County nowadays.

146. A short history of tribal hunting is attached at Appendix I to this report.

147. *Tsetse Control in relation to game*.—The game clearance scheme started last year is still in operation in Kwanja and Maruzi Counties of Lango District. Shown below is a list of game killed in 1954:—

Buffalo	...	...	...	6
Black rhino	...	...	...	24
Waterbuck	...	...	...	114
Bushbuck	...	...	...	104
Reedbuck	...	...	...	14
Duiker	...	...	...	87
Oribi	...	...	...	55
Uganda Kob	...	...	...	527
Hartebeest	...	...	...	292
Warthog	...	...	...	195
TOTAL				1,418

These figures, of course, do not show the amount of game killed in virtually unlimited tribal hunting, although this as well as shooting by the Tsetse Control Department hunters was held up for some time by rinderpest restrictions.

148. Some specimens from rhino shot were collected and sent to the Zoological Society of London, and the London Museum of Natural History.

149. *Capturing Zoo Specimens.*—Messrs. Seago and Bloom spent some time in Maruzi County, and collected quite a number of animals, including two young black rhino, the younger of which unfortunately died. They stayed at the camp of Mr. Nelson of the Tsetse Control Department, who greatly aided them in the collection, and the first rhino was named "Nelson" after him, the second and smaller rhino being called "Half-Nelson!"

150. *Labongo Show, Kitgum.*—This department took part in the above show, having a Game stall and a Fisheries stall. The Game stall consisted mainly of heads lent by Head Office, skins, etc., and local colour such as spears, traps, etc. The Fisheries stall showed live fish, nets, and a collapsible boat, etc. Both stalls were very popular, especially with the younger and the older element, the elder proudly taking the younger by the hand and pointing out the different heads and telling stories about them.

151. The same day, and the morning of the next, a shooting competition was held, on a .22 range, which was also very well attended. The winner was Mr. Shaban bin Faraj, of Kitgum, and Mrs. F. Wood, wife of the A.D.C., very kindly presented the cup after a display of dancing. All in all, it was a most successful experiment.

West Nile Range—Game Ranger's Report

INTRODUCTION

152. A happier period for the Department, but not for poachers! Numerous poachers were brought to book and hundreds of snares were destroyed. However, owing to the recent sudden exorbitant rise in the price of rhino horn, the white rhino have suffered from the attentions of poachers. A rinderpest outbreak also caused no little alarm and despondency.

STAFF

153. The Game Ranger was absent on vacation leave from the beginning of July, 1954, to the end of January, 1955. The Game Ranger, Northern Range, kept an eye on the West Nile Range during this period.

154. Considerable weeding out of Game Guards proved to be necessary; the staff at the end of the period under review was one gun-bearer, two Game Scouts and eight Game Guards. There were no fatal casualties to staff, one man only being badly bruised after a surprise meeting with a buffalo.

155. There are now two Honorary Game Rangers in the Range, Mr. M. Charters of the East Africa Tobacco Company, and Dr. G. S. Nelson, of the Uganda Medical Department.

ILLEGAL KILLING OF GAME AND BREACHES OF THE GAME LAWS

156. With the valued assistance of the Police, a substantial number of convictions was obtained. The great majority of the cases concerned snaring of game animals from oribi to elephant. These snares are generally made from wire cable that can be bought in any shop anywhere.

157. These wire snares are a menace; they are easily obtained, are cheap, are easily operated and show good returns for a small outlay. The real danger with this type of snare is that more often than not it is picked up by a dangerous animal, which generally makes off in an extremely bad temper. The result is that usually an innocent person has to pay for it by death or a long stay in hospital.

158. During July a young bull elephant was discovered strangled to death with a wire noose around his neck. In September a Game Guard operating in East Madi was charged by an infuriated elephant and after shooting it discovered a wire noose buried deep in its leg. Again in October a Guard found evidence of an elephant having been caught by the leg with a snare attached to a log of wood. The log had been dragged until it eventually hooked between two trees, and the wire broke. The animal, then, presumably with the wire still around its leg, made off, and though tracked by the Guard was never found. During November, again in East Madi, a Scout discovered a young elephant that had caught its trunk in one of these wire snares; the noose had pulled tight and the elephant had died. It is not difficult to imagine the agony the poor beast had gone through. However, by diligent enquiry, the Scout eventually found the person responsible for laying the snare and he was sentenced to two months' hard labour plus a fine of Shs. 50/-; his friend being sentenced to three months' hard labour for being in possession of the ivory.

159. In July, an Indian in Arua was fined 500/- for hunting buffalo during the rinderpest closed season.

160. Early in 1955, the value of rhino horn rose very suddenly to an exorbitant level. This has resulted in a serious outbreak of poaching of white rhino. They are such docile creatures that killing them by spearing and shooting is a very easy matter and is extremely difficult to control. Extra staff have been posted to the Ogoko area in West Nile and to the Obongi/Laufori area in West Madi in order to combat the increase in this poaching.

161. The meat-selling menace is still a headache, but is not as severe as in 1953, owing to stricter control through having more Guards in the field.

162. Tribal hunting, although legal, is extremely difficult to control. Many female animals accompanied by young are killed annually. The excuse is always the same - excitement, and "I didn't know it was a female or a young animal".

GAME RESERVES AND SANCTUARIES

163. *Mount Kei White Rhino Sanctuary*.—There are very few white rhino, in fact very little game at all in this area. In the past this Sanctuary has suffered considerably from poachers operating from the Southern Sudan.

164. *Mount Otze White Rhino Sanctuary*.—The white rhino in this area are confined to the central, northern and north-eastern sections. The north-eastern boundary adjoins the Sudan Nimule Game Reserve, which gives the Uganda white rhino protection on the north-eastern flank. The rhino are continually on the move between the two countries so it is very difficult to calculate the numbers of resident beasts.

165. *East Madi Elephant Sanctuary*.—In this area stands the Zoka Forest, a reputed elephant breeding area. The Zoka Forest contains much wild coffee, which attracts many Africans, who also do a considerable amount of snaring of small game.

166. This area holds many elephant, mainly breeding herds consisting of cows and calves, but there are a number of large tuskers. Occasionally these tuskers meet their doom when they venture outside the Sanctuary into cultivation along the Esiya River.

167. This Sanctuary is a Sleeping Sickness Restricted Area, and is therefore seldom visited by the general public, making it a paradise for snare hunters. The snares are usually set along rivers and around water holes well inside the Sanctuary and then visited every three or four days. In this way, many animals are caught, killed by strangulation, and eaten by vultures, hyaenas and other scavengers long before the owner of the snare returns. This makes the apprehension of the snare owners extremely difficult and few are actually brought to book. All snares or traps are confiscated if removable, and destroyed if permanent.

GAME TROPHIES

168. Only one large tusked elephant was shot in the Range by a licence holder, the tusks weighing 95 and 88 lb. each. An elephant carrying tusks of 101 and 98 lb. had unfortunately to be shot in East Madi on control. Another large tusker, which carried a 95 lb. tusk on one side, and a four tusk combination weighing 10 lb. on the other, was shot on control at Pakwach.

ELEPHANT CONTROL

169. *General*.—The total elephant shot on control in the West Nile Range was 96, this figure being considerably higher than the 1953 figure of 41. Most of the animals killed were shot in protection of cultivation in Madi, where the cultivated areas are generally small and scattered, making protection difficult and expensive.

170. *West Nile*.—A total of 25 elephant—19 males and 6 females—were shot on control during 1954. This figure is 9 higher than the 1953 total. The greater majority of control has, as usual, been carried out in the Aringa, Koboko and Madi counties of West Nile District, damage

generally being caused by migratory elephant to cotton and cassava crops. In Koboko county, the elephant migrate from the Congo, and enter Uganda during the long rains. The Aringa elephant are generally raiders from the Kali-Waka area in West Madi, whilst the Madi county elephant are from West Madi and also from the Elephant Sanctuary on the east bank of the Nile.

171. Few large tuskers are ever seen in West Nile. The odd heavy tusker occasionally does enter from the Congo, and others swim the Nile, but very seldom stay long within the reaches of licence holders.

172. In April, the Game Ranger had to shoot an elephant, carrying on one side a tusk of 95 lb. and on the other a four tusk combination which weighed 10 lb. This old gentleman was shot at Pakwach, whilst actually in a cassava field. An attempt, with thunderflashes and shots over his head, to drive him back over the Nile to the Sanctuary failed, so he had to pay for his misdemeanours by death.

173. *Madi*.—A total of 71 elephant—30 males and 41 females—were killed during cultivation protection. This figure is very much higher than the 1953 total of 25 elephant killed on control. Most of the control shootings took place in West Madi.

174. In West Madi, the Kali-Waka herd were more persistent in their attentions to cultivation, with the result that stricter control was required. Most damage was caused at Laufori, Paloringa, Legu and Itulu. A little damage was caused near Moyo and at Metuli and Dufile.

175. As during last year, elephant entered West Madi from the Sudan and the elephant Sanctuary east of the Nile. A few big tuskers were reported as seen but none met their end by licence holders or poachers.

176. The Kali-Waka herd were as bad tempered as usual, as they are still driven in a never ending circle—Waka swamps to the Nile to Laropi and back again to Waka. However, all this movement does not appear to have any effect on their breeding habits as many young were seen throughout the year.

177. In December, an African cultivating at Dufile, speared and killed an elephant one night when the animal was actually crop raiding.

178. In West Madi, the protection of cultivation has been, and still is, a difficult question. Generally the cultivated areas are small and scattered, and are very often situated a long way from the huts of the owners. The Game Ranger has never yet seen any attempts to protect cultivation, in the way of ditches or bomas, by the local people. The result to the elephant and buffalo is a small cultivated area of choice and tasty food, in the middle of the bush and closely surrounded by bush. There is nothing to show the four-footed raider that the area is closed to it, so the crops are damaged. Very often these crops are planted merely as a lure to game, so that the Game Ranger can supply free meat and tons of it during the elephant season.

179. In all fairness to the local Madi, there are a few who do genuinely attempt to protect their crops. These people usually cultivate near their huts, and when elephant do enter these areas the people turn out in force, and by making a terrific noise usually drive off the raiders. These men are always given the fullest assistance by the Department.

180. In East Madi there are no resident elephant outside the Sanctuary. During the rains, elephant leave the Sanctuary, and a few have to be shot in protection of cultivation. In April, 1954, a Game Guard was unfortunately forced to shoot two elephants carrying tusks of 101 lb. and 98 lb.; and 46 lb. and 43 lb. respectively. These animals were on the edge of cultivation, and charged the Game Guard when he attempted to drive them towards the Sanctuary.

NOTES ON THE FAUNA

181. PRIMATES. *Baboon*.—In West Nile and Madi these troublesome beasts are generally very localised. A considerable amount of damage was caused in the Kuluva area of West Nile and in the Metu area of West Madi. The baboon poisoner in West Madi was kept busy in his own district and also at the Kuluva Leprosy Settlement, where baboon became troublesome. In West Madi, these unpleasant beasts are tribal hunted with excellent results as whole troops are often wiped out at a time.

Colobus.—Often found along watercourses in the more remote and uninhabited areas of West Nile and West Madi and also along the Nile. In the Metu division of West Madi the skins of these beautiful monkeys are sometimes used as "dancing costumes", together with leopard skins. However, no freshly killed skins have been seen this year.

182. *Vervet Monkey*.—These animals do a considerable amount of damage, and are tribal hunted by the Madi in West Madi.

183. CARNIVORA. *Lion*.—These fine animals are rather rare and localised in the West Nile Range. Their main stronghold is in some rocky hills north of Waka in the West Madi county of Madi sub-district. A Game Guard reported seeing 14 lion in front of his camp during a two-day visit to this area. A lion was speared in January, 1955, by an African at Metu.

184. The lion in Madi have not been shot at by licence-holders for many years and as a result are rather tame. As they do extremely little damage to domestic livestock they are very seldom hunted by Game Guards. No lion were shot on control.

185. *Leopard*.—Fairly plentiful in the Metu division of West Madi. Leopard skins are much favoured by Madi tribesmen as suitable apparel for dancing sessions. Fair numbers of these animals are killed, in protection of domestic animals, by the local people, so the supply of skins is kept up!

186. In May, a Game Guard was slightly mauled by a leopard when he attempted to drive the animal off a kob that it had just killed. The

leopard objected and attacked the Guard, who only managed to kill the animal after it had bitten him in the thigh and arm. The Game Guard was punished for molesting the leopard.

187. In January, 1955, Mr. Charters was presented with two tiny leopard cubs by a local African. One cub was accidentally run over by a car, but the other grew very tame and was eventually flown to England and presented to the Edinburgh Zoo.

188. *Serval Cat*.—Fairly common throughout the Range, but due to their nocturnal habits are rarely seen.

189. *Hyaena*.—There appear to be very few in West Nile or Madi. No damage caused by hyaena was reported, in fact they were rarely seen.

190. *Jackal*.—Common, but do very little serious damage. These animals still act as scavengers in Moyo township.

191. *Wild Dogs*.—No reports were received of these animals during the year.

192. UNGULATES. *Buffalo*.—Despite an outbreak of rinderpest early in 1954, these beasts appear to be holding their own. Poachers and licence-holders also take their toll, but buffalo still survive.

193. In many areas, especially the Ogoko area of West Nile, due to the continual persecution by licence-holders and poachers, the buffalo have become nocturnal. At the crack of dawn these herds make for the Nile swamps, where they stay till evening when they come out to feed.

194. Throughout the Range, buffalo suffer greatly from wire snares. In the Ogoko area practically every buffalo shot has either been wounded or has had a snare around its neck or leg. It is not difficult to understand why the buffalo are usually either extremely timid or bad-tempered.

195. In early February, 1954, rinderpest among buffalo was observed at Loreze on the Sudan boundary. The outbreak spread southwards gradually and finally died out about May, 1954. Details of the outbreak are given elsewhere.

196. In December, 1954, a Game Guard was knocked down and badly bruised by a wounded buffalo. The animal was shot by another Guard who was accompanying the injured man.

197. In April, 1954, the Game Ranger's Landrover was chased for some distance by a herd of about 20 buffalo in the Kali area. Although efforts were made to shake them off they persisted, and eventually one had to be shot by a Game Guard (in the rear of the vehicle) before they would give up.

198. During March, 1955, an African was walking along a motor road near Dufile, when he was charged by a buffalo. The man ran towards a hut, but was caught by the buffalo as he was entering the door. The man was horned out of the doorway by the buffalo and tossed. Another African

armed with a spear came to the rescue, and was in turn tossed by the buffalo. Some more people ran up and attacked and killed the buffalo, which was found to be suffering from numerous festering sores on its back. The two injured Africans were taken by car to Moyo hospital, one dying almost immediately; after a month the other was taken off the danger list.

199. In early April, 1955, two Africans were badly injured by buffalo at Metu during a tribal hunt.

200. In April, 1954, a European photographer, Mr. Strivens, was knocked down and slightly injured by a buffalo. This gentleman was armed with a camera, and his companion, Mr. Lloyd-Worth, carried only a pair of binoculars. Whilst approaching a herd of elephant, a buffalo charged out of a bush and made for them. Lloyd-Worth jumped clear, but the buffalo caught Strivens a glancing blow which was sufficient to floor him. As he was getting to his feet, the buffalo charged again and luckily hit him with the boss of its horns only. Just as the buffalo was about to toss Strivens, Lloyd-Worth ran up and threw his binoculars into the buffalo's face. This action was sufficient to distract the buffalo from Strivens, who rose to his feet, and both men then managed to escape. Strivens only suffered severe bruising, but no doubt owes his life to the cool courage and quick thinking of Lloyd-Worth.

201. The Assistant District Commissioner, Moyo, and the Game Ranger successfully reared two young buffalo calves in 1954, but unfortunately both animals had to be shot during the rinderpest outbreak.

202. *Eland*.—No reports of these animals were received during the year. It is thought that a few exist in East Madi.

203. *Lord Derby's (or Giant) Eland*.—Towards the end of January, the Game Ranger saw two bulls of this magnificent species of eland at Loreze on the Sudan boundary. Photographs were taken one of which has already been reproduced in the 1953 Departmental Annual Report.

204. A herd of about 20 strong is believed to be permanently resident in Uganda along the Ilengwa range in West Madi. At the end of 1954 and early in 1955 tracks were seen in this area. In March and April of 1954 and 1955, Lord Derby's eland entered the Midigo area of West Nile from the nearby Sudan. This is an annual movement and the animals soon returned to the Sudan.

205. During the rinderpest outbreak, four carcasses of giant eland were found at Loreze, being a large bull, an adult cow and two young beasts. The horns of the bull and the cow were recovered, the horn lengths being 39 $\frac{3}{8}$ " and 31" respectively.

206. *Waterbuck (Defassa)*.—Common throughout the Range. A number died from rinderpest in 1954. Between Kali and Itula, West Madi, there is a herd of about 30 bulls. The horns carried by the males are smallish but very well shaped.

207. *Bushbuck*.—Very numerous but seldom seen. A few died from rinderpest.

208. *Sitatunga*.—Reports were received, but not confirmed, of these beautiful animals being seen along the Nile from Dufile to the mouth of the Umvosa river.

209. *Uganda Kob*.—Are very localised in the Range, the main stronghold being the area around Kali in Madi. In East Madi a few still exist, but on both sides of the Nile they suffer greatly in the tribal hunts and from poachers. Some good heads were seen in the Kali area.

210. *Lelwel Hartebeest*.—Small herds of this species may be found throughout the Range.

211. *Oribi*.—Suffer greatly during tribal hunts. Generally very wary.

212. *Klipspringer*.—No reports were received of these agile little animals. It is not yet definitely known if they do exist in the West Nile Range.

213. *Common Duiker*.—One of the commonest animals found in the area. Apart from deaths during tribal hunting, it is unlikely that many of these animals are killed by licence-holders or poachers, as they are very wary little creatures.

214. *Giant Forest Hog*.—No reports of this species were received, and it is not yet known whether they exist in the Range.

215. *Wart Hog*.—Very common and do a certain amount of damage to sweet potato fields. Rinderpest affected these animals and numerous carcasses were found in the Kali area. In April, 1955, the Game Ranger was charged from very close quarters by a wounded sow. When the beast was finally killed she was chewing the end of the Game Ranger's rifle!

216. *Hippopotami*.—In previous years hippo were unlimited on a game licence in the Albert Nile. In July, 1954, the number allowed to be killed on an annual licence was reduced to four. Until this action was taken, hippo were slaughtered in large numbers along the Nile, in fact in 1953 a total of 4,750 lb. of hippo tusks were exported from the West Nile Range. Previous to that in 1950, 2,967 lb. were exported, in 1951, 15,199 lb. in 1952, 4,647 lb. Assuming that the average hippo carries 5–8 lb. of tusks, then many thousands of hippo must have died. Many of the tribes that have settled along the Nile tribal hunt these beasts, and many are wounded yearly. Very few are ever shot on control.

217. *White Rhinoceros*.—As noted earlier, there are very few white rhino in the Mt. Kei Sanctuary while in the Mt. Otze area, the white rhino are confined to the northern half of the Sanctuary.

218. In the Ogoko area of West Nile, the white rhino appear to be a dying species. This area is one of the most heavily poached in the Range, and white rhino suffer most. Extra staff were posted there to attempt to save the rhino, and convictions were obtained. Rhino horn,

in Arua, was reported to be fetching up to Shs. 85 per pound, which naturally drove all poachers into the field. These animals are generally so docile that it is a very easy matter to spear them. As the horns may weigh anything up to 20 lb., the income derived by poaching these animals is high. Most of the carcasses found recently were intact, with the exception of the horns, which only goes to show that the poachers are no longer interested in the meat.

219. During March and April, 1955, Mr. John Seago successfully caught a pair of young white rhino (a male and a female) for the Zoological Society's Gardens in Regent's Park, London. These have now arrived safely and are installed in their new home; they are the first white rhino in any British Zoo.

220. The main concentration of white rhino is in the Kali Obongi area of West Madi. In West Nile, white rhino are found in small numbers on the west bank of the Nile, northwards of the Ora river. In the Ogoko area there are few left, due mainly to the activities of poachers. Between Rhino Camp and Obongi, white rhino are more numerous, but nowhere plentiful.

221. The Era Crown Forest Reserve still holds many white rhino, in fact there are far more white rhino in this Forest Reserve than in both the Kei and Otze Forest Reserves combined.

222. In January, 1954, the Game Ranger, accompanied by the District Veterinary Officer, were charged by a truculent white rhino bull. A shot had to be fired over the animal's head, which turned it and enabled the safari to make good its escape. This animal was always to be found near Loreze in the Ilengwa range area, and had a reputation of being bad tempered. This beast has not been seen during 1955.

223. No damage caused to crops by white rhino was reported. These animals very seldom, if ever, enter cultivation.

224. Towards the end of 1954, a white rhino cow, accompanied by a calf, was killed by poachers near Ogoko Rest Camp. The calf exhibited great courage by remaining by the carcass of its mother for four days, charging anybody who came close, although it was suffering from a spear wound in its head and one in its flank. It eventually made off when the mother's carcass was buried and has not been seen since. The Game Ranger was not available at the time, or efforts would have been made to catch the youngster. The poachers concerned were eventually brought to book.

225. The Ogoko area, owing to its near proximity to Arua, is a popular area for visitors interested in photographing white rhino, many being successful.

226. *Black Rhino*.—A few of these lumbering beasts are found in East Madi. They are very seldom seen and cause very little damage. No control was necessary.

227. *Giraffe*.—In early 1954, two small herds were seen outside the elephant Sanctuary in East Madi, but no signs have been found of them in 1955. The greater majority of African women in East and West Madi wear necklaces made of giraffe hair, which is always supposed to have been obtained in the Sudan! Although no carcasses or signs of giraffe poaching have been found, it can only be supposed that these animals have been killed off or else driven far into the elephant Sanctuary.

228. *NOMARTHRA. Ground Pangolin or Scaly Ant-eater*.—These animals are often met with in the Obongi area of West Madi, where they are quite common and well known by the local population.

229. Mr. John Seago, whilst in West Madi, was able to obtain a female together with her young. These two were flown to Regent's Park Zoo. He was also presented with other pangolin by the local inhabitants. These animals all escaped in due course. However, during the short time they were in captivity, Mr. Seago was able to feed them—in the past a very difficult task—on finely chopped raw liver mixed with milk.

230. Mr. R. Bloom, who accompanied Mr. Seago, is one of the few people to have ever seen pangolin mate. Mr. Bloom placed two newly acquired adult pangolin in a large box, and much to his surprise, they immediately mated.

231. *BIRDS. Whale-headed Stork*.—Odd birds may generally be found along the Nile.

232. *Woolly-necked or Bishop Stork*.—Generally seen in pairs in the swampy areas.

233. *White-bellied or Abdims Stork*.—A main migration route followed by these birds appears to pass through the northern end of West Nile and West Madi.

234. *Saddle-bill Stork*.—Often seen in pairs in swampy areas.

235. *Duck*.—The 1954/55 duck season was a very poor one in the West Nile Range. In West Madi no duck were seen till early March.

236. *Secretary Bird*.—At one time thought not to exist in West Nile and Madi. However, these birds are fairly frequently met with in the Kali/Obongi area of West Madi, and in the Midigo and Rhino Camp areas of West Nile.

GENERAL

(a) Diseases of Game

237. *Rinderpest*.—Early in February, 1954, rinderpest was discovered amongst buffalo at Loreze, north of Moyo on the Sudan border. A shooting campaign was undertaken in order to stop the movement of infected buffalo in a southerly direction, and this campaign was sufficiently successful to allow the Veterinary Department time to inoculate all cattle. However, the disease spread slowly southwards amongst buffalo, waterbuck and

warthog, and in the final stages extra Game Guards and Tsetse Control hunters were sent to the area and a defence line formed along the Arua-Rhino Camp road.

238. In the end the disease, except for very few isolated areas, confined itself to the Kali region. By May, the disease had almost died out, but towards the end of the month a few sick buffalo were shot near Mutir.

239. In general, the outbreak was mild, only affecting the younger animals. As far as is known, no rinderpest was observed amongst the domestic stock in the district.

(b) Notes of General Interest

240. *Honorary Game Rangers*.—In 1954, Mr. M. Charters of the East African Tobacco Company was appointed an Honorary Game Ranger, and in 1955, Dr. G. S. Nelson, of the Medical Department.

241. On the 9th February, 1954, whilst the Game Ranger was on an air reconnaissance in a chartered Auster Aircraft over the Nimule Reserve in connection with the rinderpest outbreak, a white-backed vulture was struck by the plane, and the pilot was forced to make an emergency landing amongst rock and bush. The pilot and the Game Ranger were unhurt, but had to face a 20-mile tramp to Moyo. The aircraft was abandoned.

Karamoja Range—Game Ranger's Report

INTRODUCTION

242. A Game Ranger was for the first time appointed to the newly formed Karamoja Range in November, 1953, on transfer from Bunyoro; before this, owing to limited staff, it had not been possible to pay detailed attention to the fine fauna region of Karamoja. The responsibilities of the Range also include a watching brief on the neighbouring districts of Bugisu, Bukedi and Teso.

243. During the period which is covered by this report a great deal has been learnt about the game of Karamoja and their movements. In addition to species already recorded we now have positive evidence that Barker's bush-buck, *tragelaphus scriptus barkeri*, and the mainless zebra both occur in the district.

244. A semi-permanent camp has been erected by department staff in the north, and some fish ponds constructed in Moroto with the assistance of the administration.

STAFF

245. Mr. K. H. F. Scott, Field Officer, Tsetse Control Department, Lomej, was made an Honorary Game Ranger in December, 1954, and his assistance has been of great value to the Department.

246. A nucleus of six Game Scouts and Guards was brought up by the Game Ranger from Bunyoro, to help start the Department in Karamoja; as local conditions did not appear to suit them there is now a complete force of Karamojong Scouts, all recruited from ex-askaris of the 4th K.A.R. These men were all carefully picked and have received careful training; as a result a great deal has been achieved towards putting a stop to poaching in Karamoja.

247. All Game Scouts have been armed with .300 Springfield rifles and five rounds of ammunition each, for protection purposes only, and any ammunition expended has to be fully accounted for.

ILLEGAL KILLING OF GAME AND BREACHES OF GAME LAWS

248. On the whole, considering that there has never before been a representative of the Department in Karamoja, illegal killing and breaches of the Game Laws are at a comparatively low level, with the exception of the activities of the Mening in the north.

249. *Tribal Hunting.*—In the past, before a Game Ranger was appointed to Karamoja, tribes from the Sudan looked upon north Karamoja as their private hunting ground. Large hunting parties would move in during the dry weather and massacre huge quantities of game. To give an example of the damage done by these people, in February, 1954, in two hunts alone, approximately 600 head of game was killed. Continual patrolling of this area by the Game Ranger and Game Scouts, plus valuable assistance given by the Provincial Administration has at least curtailed their activities.

250. Large parties of Teso regarded the Longorokippi area in much the same way and Game Scouts arrested thirteen of these poachers with wheel traps and meat in January, 1954; these men were adequately dealt with by the District Court and it appears to have curtailed their activities as the game has definitely increased during the past year.

251. The only area where tribal hunting officially occurs in Karamoja is the Napori area of north Dodoth, and this has now been brought under stricter control. Permission was granted for a four-day hunt in March, 1955, stipulating that no traps were to be used and that two Game Scouts would attend the hunt—four kongoni and one wart hog were killed by the spearmen!

252. *Poaching.*—A party of Jie, Bakora and Matheniko were found by the Provincial Commissioner and District Commissioner hunting elephant on the Lonyili range; although only one elephant has been recorded dead it is obvious that they wounded a fair number. This is believed to have been a party of young men blooding their spears. Unfortunately as only a few Game Scouts were in the area at the time they all managed to escape, but it is hoped that with the permanent camp now erected at the foot of Lonyili range this will not occur again.

253. Eight Mening poachers were caught by the Game Ranger in the process of cutting up a giraffe in the Narus valley; they were all suitably punished in court. Another two Dodoth were later arrested by Game Scouts for killing two giraffe and convicted.

GAME RESERVES AND SANCTUARIES

254. The only game reserve or sanctuary in Karamoja at present is the Napak Crown Forest Reserve, which is a sanctuary for greater kudu and roan. Owing to more pressing work in the district the Game Ranger has not yet paid much attention to the area. However, both roan and greater kudu have been found to be far more numerous in other parts of the district.

GAME TROPHIES

255. During the period covered by this report some exceptionally large heads have been obtained in Karamoja. The Uganda record greater kudu, shot on Mt. Moroto by an English visitor, Mr. Adams, in February, 1954, was a truly magnificent head; the horn measurements were: 57 $\frac{3}{4}$ " on outside curve, 37" straight line, circumference 10 $\frac{7}{8}$ ", and tip to tip 26". A photograph of this head appears in this report. It was shown as one of the British exhibits at the International Big-Game Exhibition at Düsseldorf in October, 1954.

256. Mr. A. Beaden of the Uganda Police shot, in Pian, the world's record Jackson's hartebeest, of horn length 26 $\frac{1}{4}$ ", circumference 11", tip to tip 15".

257. Mrs. A. M. H. Henley, wife of the Game Ranger, shot the Uganda record, and second world's record topi on the Kamu plains, horn measurements being, length 21 $\frac{3}{4}$ ", circumference 9 $\frac{1}{2}$ ", tip to tip 15".

Dr. A. J. Haddow succeeded in shooting what must be the Uganda record lesser kudu of 32.5".

ELEPHANT CONTROL

258. *Karamoja District.*—During the period covered by this Report no elephant have been shot in protection of shambas in Karamoja; however this happy situation will not be able to continue, as there was a certain amount of damage done to crops in the Karenga and Labwor areas.

259. Efforts were made during the year to help to drive the elephant from the shambas, but with a combination of inaccurate information, bad communications and delay in reporting, together with no Game Guards trained in elephant control being in the district, no elephant were shot. On several occasions the Game Ranger drove elephant from plantations with thunder flashes.

260. *Bugisu District.*—In September, 1954, the Mount Elgon herd caused some damage to crops in the Bubwala area. A Game Guard was sent from Entebbe to deal with them and shot one, a male.

261. *Bukedi District.*—No visits by elephant were reported.

262. *Teso District*.—Unconfirmed reports were received of a few elephant visiting the Lake Salisbury region during the rains.

GENERAL NOTES ON ELEPHANT

263. There are at times large numbers of elephant in Karamoja, very few of which are permanent residents of the district; seasonal movements bring them in from Acholi and the Sudan.

264. During the early part of the year the elephant live largely in the hills and mountain country in the north; in February they start moving down into the valleys and by March there are virtually no elephant left in the hills. The main movements in this area appear to be governed by the ripening of the *Borassus* fruit. 1954 was a particularly good year for the *Borassus* nuts and large herds of elephant fed on the nuts at night, leaving the rivers at first light and spending the day in the acacia country, six to seven miles from the rivers, returning again at night. 1955 has been a bad year for *Borassus* nuts and as a result there have been fewer elephant in the region than in 1954.

Another attraction for the elephant in this area is the '*balanites aegyptica*', commonly known as the soap nut; this usually starts to ripen in February. As soon as the rains break the elephant start on a southward movement, moving right down to Napono and the Labwor hills; several elephant were reported as far south as Longorokippi in May, and one or two were reported to have moved as far as Lake Salisbury in eastern Teso. At the end of the rains in October/November they return to the hills and a large number leave Karamoja altogether.

265. *Game Ranger treed*.—While chasing a herd of elephant from shambas near Sangaar the whole herd of 105 elephant chased the Game Ranger and his staff after shots had been fired over their backs; fortunately there was a large tamarind tree in easy reach which was ascended by the party. The entire herd encircled the tree and started feeling up into the branches with their trunks; they remained under the tree for some ten minutes and were eventually driven off by several more shots being discharged into the air.

266. *Bad tempered cow*.—While photographing a small herd of cows and calves the wind suddenly changed, and a bad tempered cow turned round and charged the Game Ranger; two shots were fired into the ground near her feet, which if anything made her even more determined, and eventually she had to be shot at close range—luckily the rest of the herd turned.

267. *Damage to elephant by spearing*.—It is disturbing to see how many elephant in Karamoja have suffered at one time or another from spearing and ring-firing. Three elephant shot by the Game Ranger and one by the Game Warden had all suffered from these effects. The one shot by the Game Warden in particular was covered with spear wounds and one hind foot had been severely burnt; as a result the foot was badly deformed which meant that the elephant had to walk on his heel.

268. *Good breeding year.*—During the period covered by this report the elephant appear to have bred well, as most of the cow herds are accompanied by a large percentage of calves.

NOTES ON FAUNA

(a) Mammals

269. PRIMATES. *Baboons.*—Baboons are widely spread throughout Karamoja District, and in certain places cause serious damage to the cultivation of the Karamojong; they do, of course, untold damage to birds' nests, eating the young and eggs.

270. *Patas (or Red Hussar) Monkeys.*—These big red monkeys are fairly common throughout Karamoja, and in Matheniko and Bokora counties do a lot of damage to the millet. Unlike the baboon they move around in small bands of 8 to 15, and are therefore less noticeable when they approach the shambas. These monkeys are surprisingly fierce and even the baboon has a healthy respect for them. On one occasion the Game Ranger was sitting at a water hole watching a troupe of baboon drinking when an aged patas monkey appeared. All the baboon made way for him and waited for the old gentleman to finish his drink, not moving back again until he was well out of sight.

271. The eye teeth on a patas monkey protrude about $1\frac{1}{2}$ " beyond the gum and can no doubt inflict a most terrible wound.

272. *Blue Monkeys.*—Blue monkeys were recorded on both Lonyili and Kadam mountains; they are also thought to exist on Morongole.

273. *Colobus.*—Colobus are very common on Mt. Kadam and can frequently be seen in the forests above Namalu. The Game Ranger also recorded them on Moroto.

274. *Black faced Vervet.*—These little monkeys are common in all the riverain forests throughout the district. In Moroto boma they can frequently be seen on the trees along the Lair river. In Karamoja they do virtually no damage.

275. CARNIVORA. *Lion.*—Lion are numerous throughout the district, particularly in northern Dodoth. A number of people were killed by lion during the year. Six people in Kotido area were killed by one lion; Game Scouts were sent to the area but failed to find the beast, who was reported to be badly wounded by spears. Another man was attacked by a lion in Bokora; he succeeded in killing the lion but was also killed himself. A number of other people were clawed and bitten, as the Karamojong, like the Masai of Kenya, consider lion hunting a great sport.

276. One Game Scout, an Acholi by tribe, reported that he was jumped on by a wounded lion while walking along a path near Longorokippi; it knocked his rifle out of his hand and bit him on the jaw; he grappled with it for some time but was eventually knocked down. He then managed to get both his feet into the lion's stomach and by some superhuman effort

managed to kick the lion off; after this he managed to get to his rifle which was fortunately loaded, and killed the lion with two shots. Realizing that there was danger of his wounds going septic, he started out on a 64-mile walk to Moroto; he only managed to cover 14 miles when he collapsed near the Lochomon water pump, where he was fortunate in being picked up by a Public Works Department lorry and brought to Moroto; although badly shaken he soon recovered. Some months later the Karamojong Game Scouts stationed in the area were unkind enough to say that it had not been a lion at all but a ratel! This may have been inter-tribal jealousy, but if true probably accounts for the reason that he is still alive!

277. The Game Ranger shot one cattle killer in the Morongole area. A fair number of lion cubs were recovered, the mating season generally speaking is in February. Twice the Game Ranger has observed lions mating in February. The lions in parts of Karamoja carry magnificent manes; one really fine black mane was seen by the Game Ranger, and also a number of others with heavy, dark and tawny manes have been recorded. On a number of occasions lion have been observed feeding on buffalo and giraffe.

278. *Leopard*.—The leopard in most parts of Karamoja is a comparatively rare animal, but was certainly common in the past; the reason for this is the increased world demand for leopard skins and the fact that the Karamojong are allowed to possess leopard skins for ceremonial purposes. It is therefore not surprising that this fine animal has been considerably reduced.

279. The leopard found in Karamoja vary a great deal according to the part of the country in which they occur. Those found on the plains are usually very small and light in colour, whereas in the mountains, and especially on Lonyili and Kadam, you find what is commonly known in Kenya as the true forest leopard—a large animal with a beautiful dark skin. Evidence of leopard cubs was found twice by the Game Ranger, both times in September.

280. An amazing sight was observed by the Game Ranger and a Tsetse Field Officer. Whilst driving between Kotido and Loyoro at about 10 p.m. one night in July, a large male leopard was seen walking along the road. The car approached to within some 15 yds. and stopped. At first the leopard was slightly nervous, but after a few moments he walked right up to the car and had a good smell; he then went to the side of the road and lay down, where he proceeded to scratch and wash himself. He lay there for some twenty minutes, finally walking slowly off into the bush.

281. *Cheetah*.—Cheetah, although not common, are far more widely spread than was at first realized. Several have been recorded in north Dodoth, one or two in Jie, quite a number in the Longorokippi area of Bokora, and on the Kamu plains of Mathiniko they can very often be seen waiting on the edge of a plain watching a herd of Grant's gazelle.

One pair was also recorded on the large plains of west Pian. They appear to feed largely on Grant's gazelle, oribi and on one occasion the Game Ranger observed an old female eating a dik-dik.

282. *Spotted Hyæna*.—Hyæna in most of the district are if anything far too numerous, and as a result a great deal of damage is done by these loathsome animals. At Moruita in November, five people were badly mauled. The Game Ranger proceeded immediately to the area, and killed five hyæna in gun traps; one of these, an exceptionally large animal, was recognised by several of the inhabitants as the one which had mauled two people. Round Moroto itself hyæna are always a nuisance. One man who ran away from hospital, probably in a bad state, was killed and eaten by the Moroto 'Sanitary Corps'. It is difficult to know how to deal with the Moroto hyæna since poison is quite out of the question in the township, as it is almost certain that one or two of the baits would be picked up by the inhabitants. Gun-traps were tried, but as it was essential to have Game Scouts watching the trap at all times, because otherwise the gun would either have been stolen or someone would have tried to get through the gate to get at the meat, the hyæna came nowhere near the traps.

283. In northern Dodoth, north of the tsetse line, hyæna have obviously suffered some disease, probably a form of distemper. In the early part of 1954 hyæna were extremely numerous and could be seen in the area on most days and the uproar round the camp at night made sleeping practically impossible. In the dry season of 1955 however, hyæna were practically never seen or heard.

284. *Striped Hyæna*.—Only one has been recorded, but they are believed to be more common than it appears. The striped hyæna is an extremely shy animal and is entirely nocturnal.

285. *Wild Dog*.—Fortunately these animals are very rare in Karamoja; there are, however, a few packs in Suk and south-east Pian and they are occasionally reported around Loyoro. Mr. Scott recorded one pack near his camp at Lomej.

286. *Jackal*.—Jackal occur throughout the district and are usually seen in pairs. Cubs were recorded in Dodoth in an old ant bear hole in October.

287. *Aard Wolf*.—These curious little nocturnal animals are very common in Matheniko and Bokora, and can frequently be seen on the roads at night.

288. *Lynx or Caracal*.—This animal is common and is widely spread throughout the district; one jet black one was seen near Moroto. A young male was brought in to the D.M.O., who reared the animal. It became surprisingly tame, but unfortunately was finally killed by a house-boy while chasing a neighbour's dog.

289. *Kaffir Cat*.—The kaffir cat appears to be fairly common throughout the plains of Karamoja.

290. *Golden Cat*.—This rare cat has been recorded twice by the Game Ranger, and three times by Mr. Scott, near Lomej. Very little is known about this cat, but it appears to favour the more hilly country, probably living on rats, rock-hens and various other birds.

291. *Serval Cat*.—These fine cats are occasionally seen throughout the district. One exceptionally fine male was observed on the Kidepo. One evening the Game Ranger was returning home after dining out, when he observed what he thought to be his tame serval on the road. The car was stopped, and just as he was going to pick the animal up it sprang off into the bush; on reaching the house the tame one was found asleep on the bed!

292. *Bat-eared Fox*.—These animals were recorded in the Kidepo Valley.

293. *White-tailed Mongoose*.—These animals are to be seen throughout Karamoja. They do a great deal of damage to game birds but probably make up for this by killing some of the thousands of rats which have plagued the country since the abnormal rains. It is interesting to note how bold these animals become when living near habitation. There is a pair which frequently visit the Game Ranger's garden in Moroto and will walk all round the house and do not appear to be the slightest bit worried, even when the dogs bark.

294. *Black Tipped Mongoose (or Slender Mongoose)*.—This funny little animal, which can easily be identified by the black tip to its tail, is common along the riverain forests of Karamoja. When disturbed he will frequently take refuge in ant hills. He is a destructive little animal and takes a heavy toll of young birds and eggs; he will, of course, also kill rats, and a large part of his diet consists of insects.

295. *Dwarf Mongoose*.—These little mongooses live in bands of anything up to a dozen, feeding chiefly on insects and an occasional lizard or rat. If you approach these animals they will all stand up on their back legs and chatter at you until you go away. They live chiefly in ant-hills.

296. *Civet*.—These animals are very rare in Karamoja and do not appear to like the dry country.

297. *Genet*.—Two different varieties appear to occur in Karamoja; one, with a smoky grey background to its coat with black spots and stripes, and the other yellow with black. Two young ones of the former variety were given to the Game Ranger; one died soon after, but the other survived and remained in captivity until nearly full grown, becoming extremely tame. She suddenly wandered off one day, presumably to find a mate. These animals live on a very varied diet consisting of insects, small rodents, birds' eggs, and are also very partial to almost any kind of fruit, in particular bananas and pawpaw.

298. *Ratel*.—These curious animals occur all over the district. Though they are seldom seen owing to their nocturnal habits, there is, however, ample evidence to show their existence—robbed bees' nests and

the big dung heaps which they visit nightly. It is also possible to observe the way in which the Karamojong protect their bee-hives from these animals by tying an impenetrable barrier of thorns round the tree in which the hive is situated. The country that they favour most is the rocky hills and mountain country, spending the day in rocky crevasses or disused ant-bear holes. They are completely fearless.

299. *UNGULATES. Buffalo.*—Buffalo occur in northern Dodoth and occasionally the odd herd comes into the Longorokippi area, probably from Lango; there are also a few on Napak and in the Loporococha area on the Pian/Suk border, and also a fair number on Mt. Kadam. In northern Dodoth the Tsetse Control Department shoot any buffalo that cross their consolidation line; fortunately, during the period covered by this report, it has only been necessary to shoot a few. The 1954 outbreak of rinderpest only had a slight effect on the buffalo, and only 12 were actually reported dead. During the last eighteen months they have bred well; there appears to be no set breeding season as young calves were recorded throughout the year. A very fine head was picked up near the Lorupet river, measuring 50 inches.

300. *Eland.*—The eland is widely spread throughout this district. Calves were recorded in Dodoth during January, February and March. In the Kamu area of Matheniko, the eland started to concentrate in one particular valley and to drop their calves in June. 96 calves were recorded in this area alone.

301. *Greater Kudu.*—Greater kudu were found to be far more common than was previously thought. A fair number exist on Moroto mountain, the Turkana escarpment on the eastern Karamoja boundary, the Mogoth hills, and have also been recorded on Morongole, Lotim and Puta in Dodoth. These animals are extremely shy and are very seldom seen, unless a special trip is made to look for them. In Karamoja greater kudu are found in small herds of anything up to 15 animals. The bulls leave the herds in November and rejoin them again in August; during the time that the bulls are away from the herds they become extremely cunning and are very difficult to approach. They appear to breed regularly, dropping one calf per year which generally takes place in about April.

302. *Lesser Kudu.*—These beautiful animals occur throughout the bush-covered lowland of Karamoja and Suk. The lesser kudu are usually seen in the early morning and late evening, in small bands consisting of three to four cows with a couple of young ones, and a bull usually keeping very much in the background; the bull will very often remain in the bush for a long time after the rest of the herd has come out into the open. Calves appear to be dropped in May.

303. *Barker's Bush-Buck.*—This animal, previously not thought to exist in Uganda, was first recorded on Mt. Kadam, where a young animal was shot; unfortunately hungry porters destroyed the head during the night! Another head, however, was brought in by a Game Scout from Lonyili,

from an animal that had been killed by a leopard—a medium head with the horns measuring just over 15 inches. It is hoped that several specimens will be collected during the next year. The chief characteristics of this bush-buck are: (a) he is entirely a mountain animal; (b) he comes out into the open far more than the ordinary bush-buck; and (c) he is larger both in body and horns.

304. *Harnessed Bush-Buck*.—This bush-buck occurs in the Kidepo Valley and on the foothills of Nangeya and Morongole ranges.

305. *Oryx*.—Oryx exist in fair numbers on the plains between Moroto mountain, Toror and Turkana escarpment; during the wet weather they tend to move south to drop their calves in June. During the dry weather they move to the north, going almost as far as Loyoro. There are also a few oryx in Suk.

306. *Roan Antelope*.—The roan, by no means common, is spread throughout most of the district, living in the foothills of the mountain ranges. There are a fair number of herds in Dodoth, also at Otoké, on the Acholi/Lango/Labwor border. Round the foot of Mt. Kadam in the south they are probably more numerous than elsewhere and some extremely fine heads have been seen. Mt. Napak has one or two small herds. Calves were recorded in March.

307. *Jackson's Lelwel Hartebeest*.—The Jackson's lelwel is widely spread throughout Karamoja, and in the north they are extremely common and are found in very large herds. They are also common throughout Jie and Bokora, becoming very numerous again round Longorokippi, and very large herds can be seen on the plains in Pian. The breeding season takes place from mid-January until mid-February; by the start of the rains in early April the calves are all well grown and have started to eat a certain amount of grass.

308. *Grant's Gazelle*.—Grant's gazelle occur in the Kidepo Valley, on the Jie plains, and are also very numerous on the Kamu plains.

309. *Reedbuck*.—The reedbuck is occasionally met with in the long grass areas of Karamoja, i.e. Longorokippi, west Pian, and the Lomej/Sangaar area, being particularly common on the Nalakas river. In the latter area the reedbuck carry very good heads, 12 inches or more being not uncommon.

310. *Oribi*.—Oribi are widely spread throughout Dodoth, Bokora and the plains of Pian; they do not favour the bush country. In north Dodoth they are particularly common and on one occasion 16 were recorded in one group.

311. *Grey Duiker*.—These shy little antelope are met with all over the district—from the moorlands of Mt. Moroto and Kadam, down to the low plains.

312. *Topi*.—The topi is a very local but common animal in Karamoja, and can be found in large herds on the plains of Pian, Longorokippi and Kamu; around Lolelia the animal is also occasionally met with. Two animals were recorded in the Kidepo, but these were probably *D. k. tiang*, driven down from the Sudan by tribal hunts in Didinga; they were only observed for a few days and then disappeared, but were again reported, some weeks later, considerably further south.

313. *Dik-dik*.—The dik-dik is extremely common throughout the low bush countries of Suk, and it is also fairly common in the bush countries of Matheniko, Bokora, Jie and Dodoth. A very small dik-dik was recorded in the Kidepo Valley; it is not certain to which race it belongs.

314. *Klipspringer*.—The klipspringer is very local in Karamoja, and only occurs on the rocky hillsides, usually being seen in pairs or threes. Both the male and female carry horns in this district.

315. *Mountain Reedbuck*.—These animals are common in the Lochorlongolomoi area of Pian; in one place 16 were recorded. They also occur on Mt. Moroto and the Morongole range, including Lotim and Puta.

316. *Waterbuck*.—The waterbuck (*defassa*) is common along the foothills of Nangeya range, the Kidepo valley and there are a few in the Longorokippi area; there are also a great number in the Loporokocha area of Pian/Suk. Waterbuck did a certain amount of damage to crops in the Karenga area, and three animals had to be shot. The horns of the waterbuck found in Karamoja are small, compared with the magnificent heads found elsewhere in Uganda.

317. *Uganda Kob*.—A small herd of eighteen kob suddenly appeared at Longorokippi dam; it is thought that during the heavy rains of 1954 the kob moved east from Teso, attracted by the succulent grasses of Karamoja. It is hoped that now that they have found Longorokippi they will stay there.

318. *Black Rhinoceros*.—Rhino today only occur in the north, with the exception of five that have somehow been cut off between Otukey and Longorokippi. They are also occasionally found between Kotido and the Rom/Kuputh road. In northern Karamoja the rhino is comparatively common; over a hundred are known north of the tsetse line. Rhino have bred well during the period under review, and about 20 calves have been reported. On two occasions rhino were seen mating in March. The horns of the rhino found in Karamoja are small, seldom weighing more than six or seven pounds and seldom exceeding 18 inches on the front horn.

319. *Hippopotamus*.—The three that live at Longorokippi dam still continue to flourish.

320. *Wart Hog*.—Wart hogs occur throughout the plains and bush country. During the 1954 outbreak of rinderpest they were sadly reduced in the north; however, one or two fine litters have recently been recorded and it is hoped that their numbers will soon recover.

321. *Giant Forest Hog*.—These enormous pig were found on Mt. Kadam, living high up in the cool forests at about 8,000 ft.

322. *Bush Pig*.—These destructive pigs only occur in small numbers in the mountains.

323. *Giraffe*.—Giraffe are fairly common throughout the plains and acacia country, being particularly common in the north and in the Lochorlongolomoi area, where large herds can frequently be seen. In spite of the poaching of these animals with wheel traps (the skin for sandals and tails for ceremonial purposes), the giraffe of Karamoja are thought to be on the increase. Calves appear to be dropped in January, February and March.

324. *Zebra*.—The most common species, *Hippotragus burchelli bohni*, is spread throughout Pian, Bokora, Matheniko and the southern half of Dodoth. In the extreme north, in the Kidepo valley, the Game Ranger recently found the maneless zebra; two specimens of this interesting animal were shot, to make quite sure that it was not just a freak. This race has previously only been reported from the Sudan.

325. NOMARTHRA. *Scaly Ant Eater*.—This peculiar animal has only once been recorded, in Labwor.

326. TUBULIDENTATA. *Ant Bear*.—These curious nocturnal beasts are common throughout the district, though they are seldom seen except on occasions in the headlights of a car. They are very local in their habits, and will live in a limited area which they patrol nightly; their holes leave ample evidence of their existence.

327. HYRACOIDEA. *Hyrax*.—Heterohyrax, the rock variety, are to be found on most of the rocky outcrops in the district, whereas the tree variety, *dendrohyrax*, are to be found high up in the forests of Mt. Moroto and Kadam.

328. RODENTIA. *Hares and Rabbits*.—Hares are common throughout Karamoja and particularly so in the dry thorn country. A rabbit, apparently similar to that found in Bunyoro, was found by the Game Ranger in Dodoth.

329. *Rats and Mice*.—Owing to the abnormal rains and abundance of grass and plant life, the rats and mice have increased to enormous numbers, the most common of all being the field rat, *arvicanthis abyssinicus nubilitus*. Two specimens of the spiny mouse, *acomys wilsoni*, were caught in Moroto; although very seldom seen it is probably quite common throughout the district.

(b) Birds

330. A great deal of work has been done on birds in Karamoja, but records of all the information required would be too long for inclusion in this report. It is proposed only to give a short account of the breeding seasons, and a few records of interest.

331. The birds that breed in Karamoja can be split into two groups, those that breed in the wet weather and those that breed in the dry weather.

332. When the rains break at the end of March the majority of the birds start their preparations; huge colonies of weavers start building in the acacia trees and along the river beds—the Somali white billed buffalo weaver, which builds its nest consisting of huge piles of thorns, and the white headed buffalo weaver, which builds a similar nest. In June the chestnut weaver arrives in huge flocks and breeds in enormous numbers, very often constructing its nests on the bottom of those of the buffalo weavers. The water birds, comorants, darters and herons, etc., breed on Longorokippi in May and June. The game birds—guinea fowl, francolin and bustard—breed mostly in May and June. Thousands of quail arrived in May and June and had a particularly good breeding season in 1954; a number of clutches were collected, usually containing 12–15 eggs. Thousands of quelea, both *quelea quelea* and *quelea cardinalis*, bred in May/June.

333. Birds breeding in the dry weather are: lappet faced vulture (recorded breeding in north Dodoth in January); whitefaced vulture (recorded in Pian in November, and Dodoth in January); the black shouldered kite (a clutch was taken in Pian in November, and another pair were recorded building in Dodoth in February). Two clutches of tawny eagle eggs were taken in November, one from Pian and one from Matheniko. Peregrine falcon were recorded nesting in Dodoth in December/January, but owing to the inaccessibility of the rocks the nest could not be reached; Verreaux's horned eagle owl, *bubo lacteus*, were recorded breeding in Pian and two eggs collected in November. A pair of Augur buzzards bred on Signal Hill in Moroto in December. The crested eagle was recorded breeding in September. A ground hornbill was recorded nesting in a hole in a borassus palm on the Kidepo in March; one egg was collected. Five ostrich nests were recorded in Dodoth between November and March.

334. The duck shooting on Longorokippi has been particularly good for the last two seasons; thousands of duck and geese of the following species being present during the dry weather:—

Spur wing geese, very numerous;

Egyptian geese, only one pair was recorded;

Knob-bill goose, very common;

Pigmy goose, fairly common;

Shoveler, occasionally seen;

Gargany, these birds arrive in their thousands in January and it is not uncommon to see wisps of up to 200 birds;

Widgeon, are occasionally seen;

Pintail, fairly common, usually mixed up with the gargany;

Hottentot teal, only four birds recorded;

Red-billed teal, occasionally seen but not common;

White-backed duck, not very common;

White-faced tree duck and Fulvous tree duck; these two varieties are the most common on the dam and when a shot is fired they blacken the sky.

335. A fair number of Abyssinian snipe, *capella nigripennis*, were recorded on the dam during December and January.

336. All told, during the period under review, seven Lammergeyer have been recorded; two on Moroto, two on Kadam, one on Lotim, one on Lonyili and one on Morongole. Verreaux's eagle were recorded on several occasions on Mt. Toror, and a single bird was recorded by Mr. Scott and the Game Ranger near Mt. Lwala.

(c) Reptiles

337. The black mamba is occasionally seen on the Lair river on Mt. Moroto.

338. While out shooting guinea fowl, the Game Ranger's wife almost trod on an exceptionally large puff adder; she immediately shot the brute, which measured just under five feet. On examining this snake it was found to have a large swelling in its stomach, caused by the fact that it had just fed. On cutting it open it was discovered that it had swallowed a whole hedgehog—rather an unusual and uncomfortable meal.

339. Crocodiles exist at Longorokippi and it is planned to try to reduce their numbers as they do serious damage by burrowing into the dam wall.

340. Monitor lizards are to be found throughout the district near water holes and rivers. One, measuring 6 ft. 4 inches, believed to be unusually large, was collected at Longorokippi.

GENERAL

(a) Diseases of Game

341. *Rinderpest*.—During the dry weather of 1954 the outbreak of rinderpest that spread across northern Uganda only had a slight effect on the game of Karamoja. A few eland and twelve buffalo in the Kidepo as well as a great number of wart hog were reported dead. Elsewhere in the district, in spite of small outbreaks in cattle, the game has not been affected.

342. *Anthrax*.—There have been no reports of this disease amongst the game of Karamoja.

343. *Other diseases*.—As already recorded, north of the tsetse line in northern Dodoth, the hyaena have almost died out—this is believed to have been caused by a form of distemper.

(b) Notes of General Interest

344. *Albinos*.—An almost completely white giraffe has been seen on several occasions north of the Kidepo. An albino ostrich has also been recorded in the Narus Valley.

345. *Malformed heads*.—An oryx was seen on the Kamu plains whose horns crossed. An eland cow was seen in Pian with one horn growing down and under her chin.

346. *Vulture's suicide*.—Whilst watching vultures arrive on a kill the Game Ranger witnessed a most unusual sight—a white-backed vulture, either very greedy or hungry descended at great speed and failed to put its brakes on in time. It was killed instantly.

347. *Wounded vulture*.—A vulture was observed near the Kidepo with an arrow stuck right through it. The arrow had obviously missed all vital parts as it did not appear to handicap the bird in any way; he was feeding as greedily as the rest.

348. *Budongo Monster*.—Soon after arriving in Karamoja the Game Ranger heard the same monotonous moaning noise that was heard in the Budongo forest while he was stationed there. On several evenings it was possible to approach to within a few feet of the noise, but on one occasion only did he get a glimpse of the mythical creature causing the noise. Unfortunately it was then too dark to shoot, so he was unable to collect the beast; however, he was able to collect a few feathers and from these to classify the "Budongo Monster" as the buff spotted crane, *sarothrura elegans*.

Lake Albert Range—Game Ranger's Report

INTRODUCTION

349. The newly designated Lake Albert Range covers the whole of Bunyoro District, and the northern three counties of Mengo; Singo, Bulemezi and Buruli. By far the greater part of the Department's work in this range takes place in Bunyoro District. Bunyoro is, and always has been, one of the main areas for elephant control, and a large amount of buffalo control has to be done there also. Early in 1954, the headquarters of the Range were moved from Busingiro, on the Masindi-Butiaba road, into Masindi itself.

STAFF

350. The work of the Game Guards during the period has generally been satisfactory, although there has had to be some weeding out, and two were discharged after being convicted for the illegal sale of buffalo meat. The new terms of service recently announced have been attracting a better class of recruit than previously. The training of these recruits is proceeding satisfactorily, and several are already producing good work.

OFFENCES AGAINST THE GAME ORDINANCE AND THE ARMS AND AMMUNITION ORDINANCE

351. During the period a great many offences have been detected, but owing to the difficulty of finding sufficient evidence, it has only been

possible to take a few of these cases to court. They have shown an interesting variety, and have included the following:—Snaring and trapping game, overshooting on licence, shooting without a licence, impersonating a Game Guard, attempting to corrupt Game Guards, presenting the ivory of an elephant found dead as having been obtained on licence, and the possession of unlicensed .303 rifles.

352. *Court Cases*.—In co-operation with the police, some twenty cases have been taken to court. Although some cases did not go as well as had been hoped, there were no complete failures. So far as is possible, cases have been prosecuted by the Game Ranger, as he is generally better placed to present these somewhat specialized cases than are the police.

353. *Unlicensed Rifles*.—During the period, three unlicensed .303 rifles were recovered by members of the Department.

354. *Wire Snares*.—The trapping of game with wire snares is exceedingly common, and about 400 snares have been collected from all over the Range. Many animals have been found either in snares or, having broken the snare away from its anchorage, wandering around with wires tied tightly round various parts of their bodies. Several animals have been found grossly maimed, and in some cases the injury has grown into a permanent deformity. Animals in this state are liable to become extremely dangerous.

355. *Elephant for Meat*.—The killing of elephant for meat, the tusks being abandoned, is still taking place in Mengo. Unfortunately, no offender has yet been caught. (See paragraph 45 of the 1953 Report).

356. *Corruption of Game Guards*.—An attempt was made in Masindi to corrupt two Game Guards into supplying illegal ivory. The person concerned had a narrow escape from being caught and convicted.

RESERVES AND SANCTUARIES

357. Until 1st April, 1955, there remained two small areas in Bunyoro District, east and west of the Murchison Falls National Park, which were survivals from the old Bunyoro and Gulu Game Reserve. In accordance with previous agreement, these were de-gazetted on the 1st April, 1955. The western area was, however, retained as a Sanctuary for elephant and hippopotamus. The shooting of other animals is now permitted in this area.

358. Since these areas have been thrown open, a number of hunters have been shooting elephant in the eastern one. Several large elephants have been shot there, the biggest tusks recorded being 96 and 94 lb.

GAME CONTROL

359. *General*.—The main animals which have to be controlled in this Range are elephant and buffalo. From examinations of the damage which these animals have done to cultivation, it has again been apparent that only a small amount of the control work that has been done in response

to requests for protection has been entirely justified by the actual damage caused. However, there are large numbers of these particular species in certain areas, and some control has been required to keep their total numbers within reasonable limits in those areas. Further, as large areas of this Range are unsuitable for cattle due to tsetse fly, the meat provided as a result of control operations forms an important part of the food supply of the local people.

360. *Offences in relation to control.*—In the areas where heavy control is carried out, the people receive enormous quantities of free meat annually. It has, therefore, again been most discouraging to find that the people in these areas are easily the worst offenders so far as illegal hunting is concerned. The people want Game Guards to shoot animals for them, and at the same time are resentful if steps are taken to stop their illegal hunting.

361. *Crops destroyed by the owners.*—Early in 1955 in the Gombolola of Mutunda, Kibanda County, Bunyoro, the people made vociferous complaints about damage to their cotton. This damage was inspected on several occasions, and found to be very little. In no individual plot was damage found to exceed Shs. 5. Later in the season, after control had been refused as unjustified, an officer of the Lint Marketing Board visited the Gombolola. There he found that the people were too lazy to harvest part of their crop, and large amounts of cotton had been cut down and abandoned in the fields, with good pods still unpicked on it. He brought samples of this cotton back to his office as proof. This kind of behaviour does not encourage sympathetic reactions from the control staff of this Department, when the same people complain of game damage. This is particularly so when the complaints are found to be grossly exaggerated.

362. *Value of meat from Game Control in Bunyoro.*—During the year 1954, 159 elephant and 290 buffalo were shot on control in the district, as well as a few hippopotamus and other edible animals. At a very conservative estimate, this means that over 600 tons, dead weight, of actual meat was made available free to the people of Bunyoro. This represents over 12 lb. of meat per head of population. The District Commissioner's figures for the year show that only 4 lb. per head came from cattle, sheep and goats.

363. If this meat is valued at Shs. 1 per lb., which is very low, the value of it is over £67,000. As beef is now priced at Shs. 1/75 per lb. in Masindi market, the actual value of the meat from control must be far greater than the above estimate!

364. It is interesting to compare this figure of £67,000 with certain other figures. The total authorised expenditure of the Game and Fisheries Department for the financial year 1954–55, for both game and fisheries work, was £66,428. The revenue of the Bunyoro Native Government, excluding subsidies from the Protectorate Government, for the same period, was estimated at £60,000.



PLATE I

The late K. de P. Beaton,
first Director and Chief
Warden, Uganda National
Parks. [*Photograph by*
P. P. Fleming].

PLATE II

The late Major R. E. P.
Wyndham, M.C., Game
Ranger, Southern Range.
[*Photograph by H. B.*
Cott]



PLATE III

The Uganda record
greater kudu—see Report
on Karamoja Range.

[*Photograph by A. M. H.
Henley.*]



PLATE IV

Wart hog—a face that
only another wart hog can
love! [*Photograph by*

J H Blower]

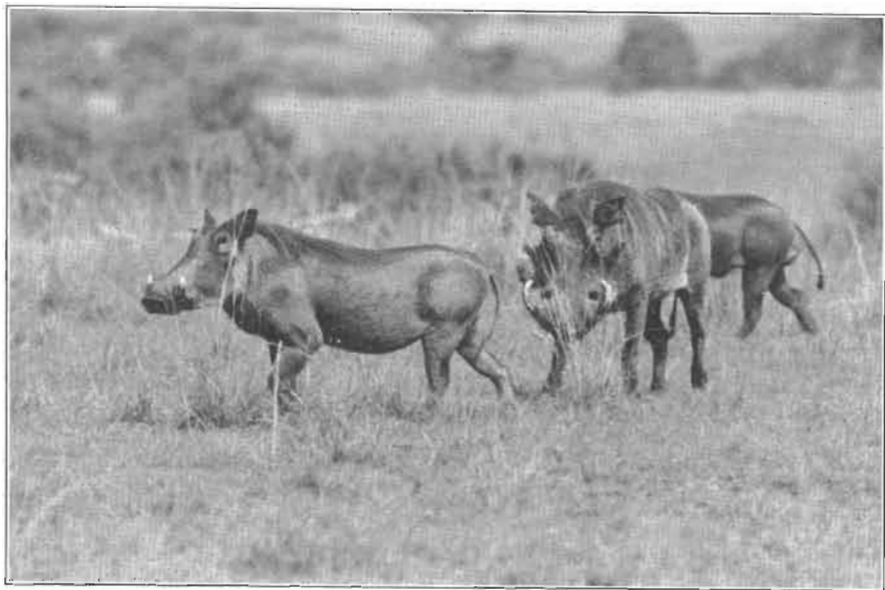




PLATE V

A wheel trap set with a wire snare—an inhuman method of poaching.
[*Photograph by K. B. Robson*].



PLATE VI

An alternative method of setting a wire snare—one of the greatest menaces to wild life.
[*Photograph by K. B. Robson*].



PLATE VII

A tortured hartebeest caught in a wire snare. [*Photograph by K. B. Robson*].

2



PLATE VIII

The same animal, showing the wire biting deeply into its neck.
[*Photograph by K. B. Robson*].



PLATE IX

An old patriarch—whose whereabouts will not be disclosed!

[*Photograph by J. H. Blower.*]



PLATE X

Junior in trouble—cow elephants helping a calf out of deep water.

[*Photograph by A. M. H. Henley.*]

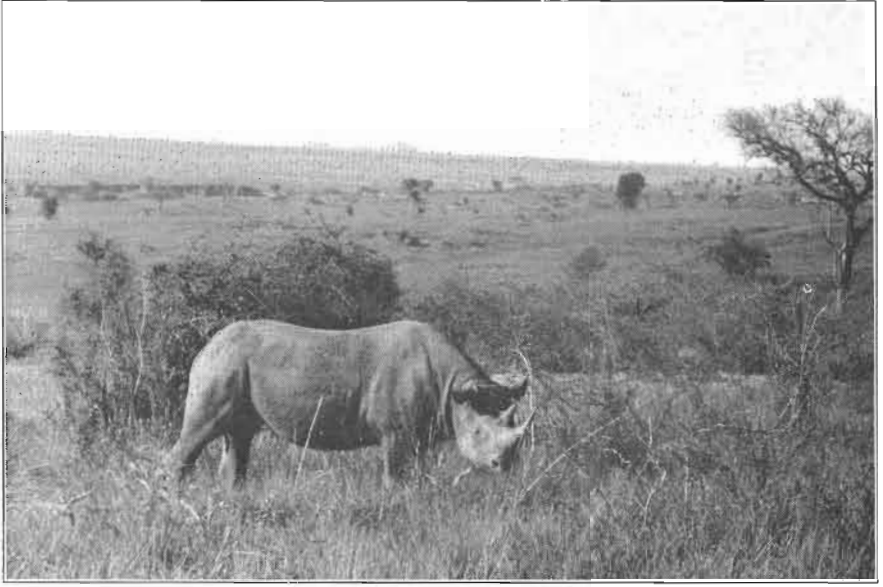


PLATE XI

Black Rhino. [*Photograph by T. R. H. Owen*].

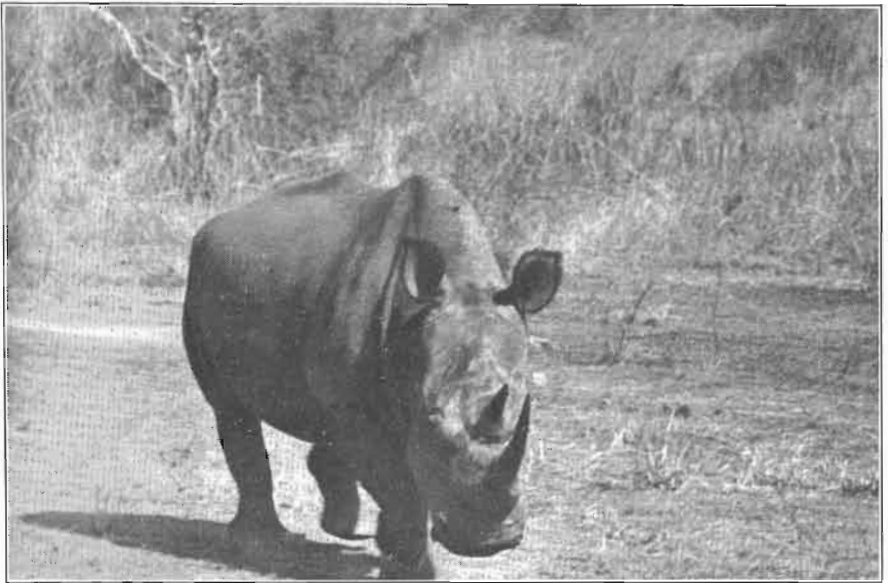


PLATE XII

White Rhino. [*Photograph by T. R. H. Owen*].

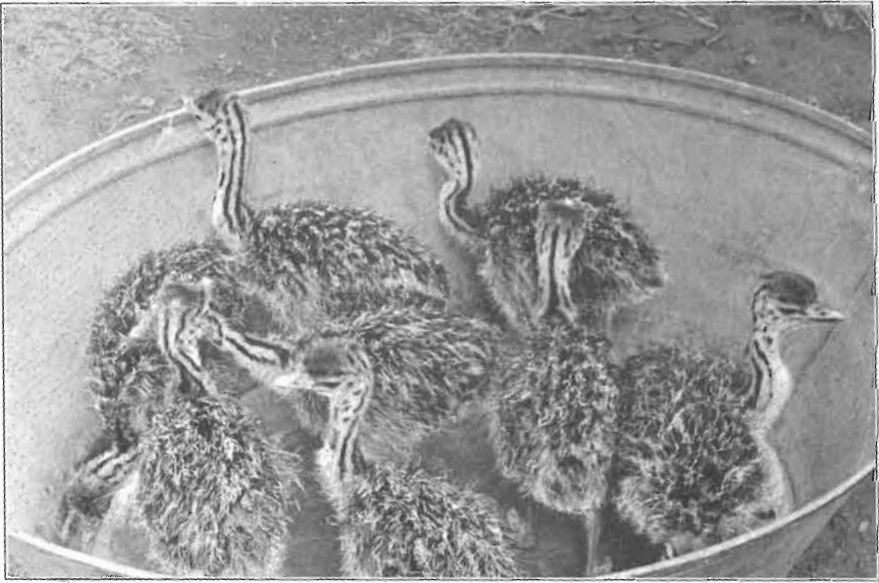


PLATE XIII

Ostrich chicks. [*Photograph by K. B. Robson*].



PLATE XIV

Hadada Ibis. [*Photograph by K. B. Robson*].



PLATE XVII

One of the Game and Fisheries Department's new launches on trials at Berwick-on-Tweed. [*Copyright Philipson Studios*].



PLATE XVIII

Dr. C. F. Hicling, Fisheries Adviser to the Secretary of State for the Colonies, on Lake Nakivali. [*Photograph by D. H. Rhodes*].

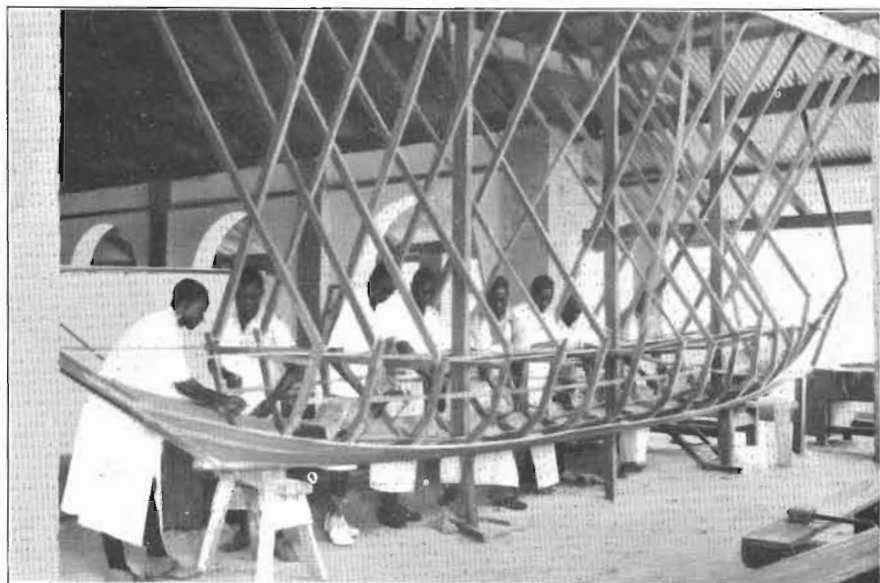


PLATE XIX

The traditional "Sese" canoe takes on a new look at Kabalega Technical School.
[Copyright E. Stevenson].

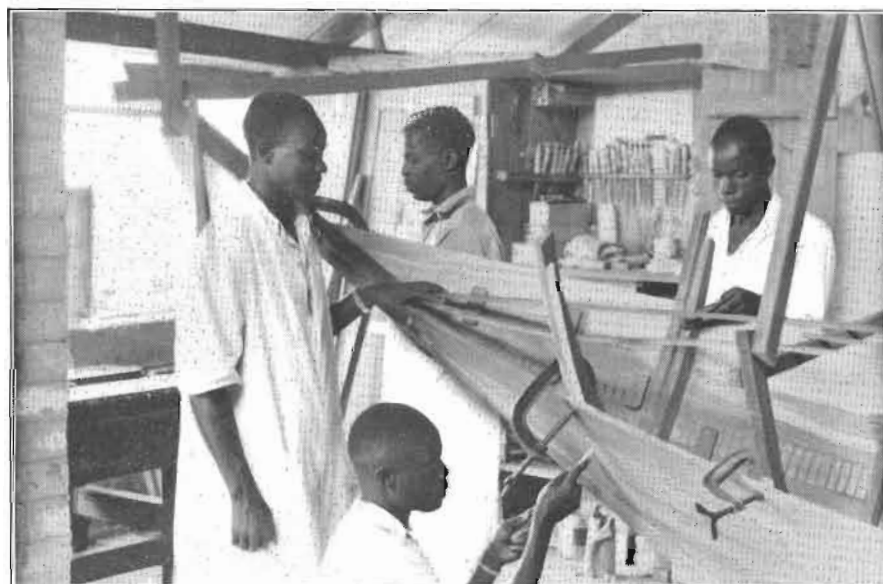


PLATE XX

The first modified "Sese" nearing completion. *[Copyright E. Stevenson].*



PLATE XXI

A Lake Kyoga fisherman and part of his catch.
[*Photograph by Fish Guard Y. Sekundi.*]



PLATE XXII

A Lake Kyoga fisherman mounting his gill nets.
[*Photograph by Fish Guard Y. Sekundi.*]

PLATE XXIII

A 127 lb. Nile perch—the record for 1953—caught by the Game Warden at Buhuka, Lake Albert. [Photograph by B. G. Kinloch]

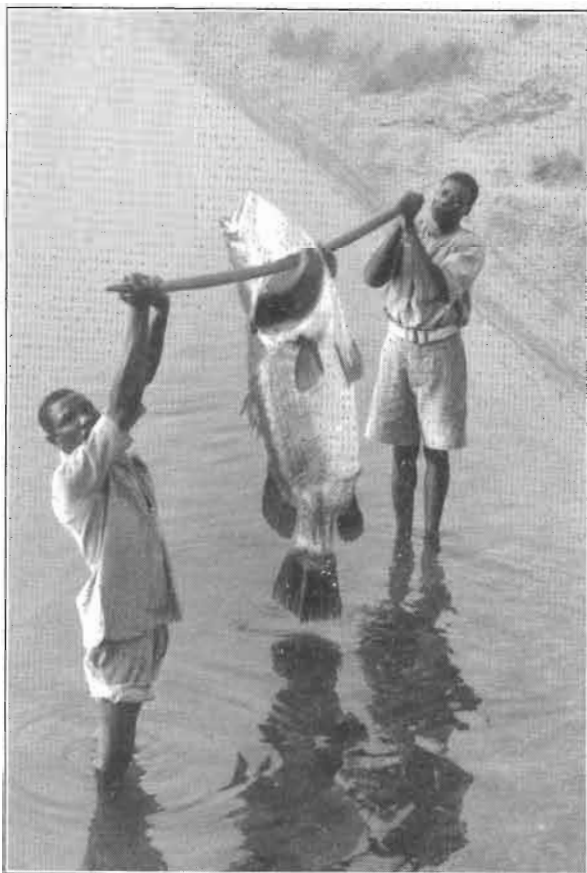


PLATE XXIV

The total bag for an afternoon's fishing at Buhuka — approximately 600 lb. including the fish referred to above. [Photograph by B. G. Kinloch].

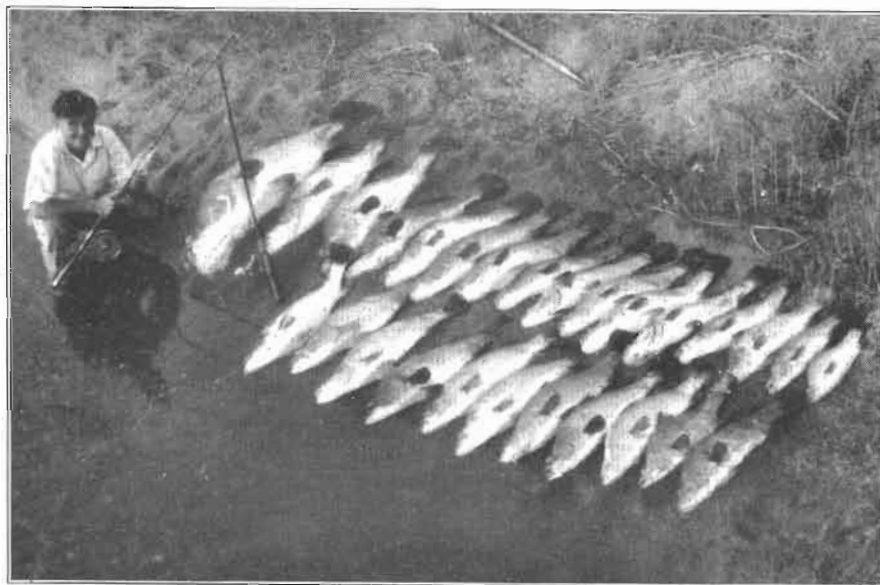




PLATE XXV

Kajansi Fish Farm under construction, showing breeding ponds and six half-acre ponds. [*Photograph by Paul Elwell*].



PLATE XXVI

Dr. C. F. Hickling inspecting the emptying of one of the breeding ponds at Kajansi Fish Fa m. [*Photograph by B. G. Kinloch*].

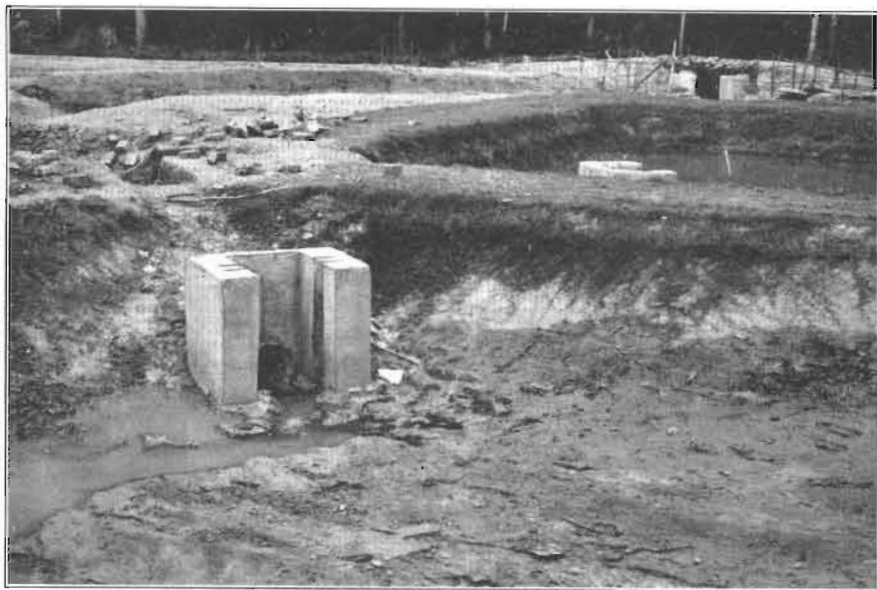


PLATE XXVII

A pond just emptied, showing "monk" type of sluice. [*Photograph by B. G. Kinloch*].



PLATE XXVIII

The nest of a breeding Tilapia. [*Photograph by B. G. Kinloch*].



PLATE XXIX

The District Commissioner's fish pond at Kabale under construction.
[Photograph by C. J. H. Simpson].



PLATE XXX

The fish farm at Mutukula Prison Camp under construction.
[Photograph by C. J. H. Simpson].



PLATE XXXI

The Kabale Township fish pond under construction. [*Photograph by A. P. J. Holness*].



PLATE XXXII

The Secretary General's pond at Kabale—since extended by cutting the swamp in the background. [*Photograph by A. P. J. Holness*].

365. There are approximately 29,000 taxpayers in Bunyoro, so the meat was worth an average of £2 6s. to each of them. In Mutunda Gombolola, however, there are only 473 taxpayers, and the meat shot in that Gombolola amounted to 70 tons. This therefore represents 310 lb. of meat, or £15 10s. per taxpayer in that Gombolola alone.

366. If, to the £67,000 already mentioned, is added the value of meat killed on licence and illegally, and also the value of ivory obtained on licence and on control, it will be seen that game in Bunyoro District has enormous economic and dietetic value.

367. It has therefore been, and continues to be, one of the Game Ranger's main duties to try to persuade every person in the District, to conserve this tremendous asset. Efforts have been made to make them realise that they are responsible to future generations that this asset be not squandered by thoughtless and excessive destruction, and that killing must be kept within the reproduction rate of the animals concerned.

368. *Wounded animals.*—During their work on control, Game Guards have killed the following animals, which were seen to be wounded:—

Gunshot wounds.

Buffalo	...	...	...	25
Elephant	...	...	...	2
Hartebeest	...	...	...	1

Wounded by Wire Snares.

Buffalo	...	...	...	16
Hartebeest	...	...	...	1
Uganda Kob	...	...	...	1

In addition, three elephant have been found dead from gunshot wounds. One elephant, known to have been wounded, has never been found.

369. Two of these elephant were wounded by poachers in Mengo, and came across to Bunyoro to die. Three licence holders have wounded and lost elephant during the period. The cause of wounding of the sixth in unknown.

370. A buffalo, with four bullet wounds, got on to the Masindi-Gulu road, near Mutunda. It held up all traffic for about two hours until a Game Guard was fetched to deal with it.

371. One Game Guard has admitted losing a wounded elephant, but otherwise the figures of ammunition fired, set against tails produced, show that very few of these animals can have been wounded by Game Guards. This is particularly so when many of these animals are found to have numerous wounds. If Game Guards had been using up to five rounds per animal, and losing them, the figures would have shown this immediately.

372. In eastern Bunyoro, where there are an estimated 20 illegal 303 rifles, about 30 per cent of the buffalo shot by Game Guards have been found to have old gunshot wounds, which have wholly or partly healed.

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ELEPHANT CONTROL—GENERAL

373. During the period, elephant control has proceeded smoothly, apart from the usual false and exaggerated reports of damage. Until those concerned begin to show a greater sense of responsibility in this connection, very little can be done to improve the situation.

374. There are frequently discrepancies between statistics of elephant shot in any given year and ivory brought to District Headquarters during the same period. This is due in large part to the long delays often occurring before control ivory is forwarded by chiefs to District Headquarters. This delay in forwarding tusks has again made it very difficult to check irregularities in the handling of control ivory, and District Commissioners have been requested to try to get this situation rectified.

ELEPHANT CONTROL—BUNYORO

375. *General.*—The majority of elephant control in this District occurs along the general line Butiaba, Masindi, Atura. This is due to the fact that this line encloses the Murchison Falls National Park and the uncultivated land along its southern border. During the wet weather, elephant break out across this line, which follows the main road, into the country to the south of it. In crossing they pass through cultivated land, and do a certain amount of damage. During the period damage has been very small, although one would not think so from local complaints.

376. *Budongo Forest.*—The elephant which live in the forest sometimes do damage to young plantations planted by the Forest Department, and as usual a few have had to be shot this year. The forest is on the line described above.

377. *Co-operative Farms.*—A series of co-operative farms have been established along the eastern boundary of the Budongo Forest. From the point of view of danger of damage from game the sites are entirely unsuitable, owing to the close proximity of major salt licks in the forest, but the choice of sites was controlled by the complicated land tenure practices of the Banyoro.

378. These farms were raided frequently by elephant, which found that the planting of maize next to their salt licks was most satisfactory. As they came only at night, control was difficult, and they spent the day deep in the forest. On one co-operative farm, the farmers used their intelligence and planted nothing but tobacco, which is not normally attractive to elephant. They had no raids, and harvested a good crop.

379. *Bugungu.*—This is the area in the angle between the Nile and Lake Albert. In the past eight years only limited protection has been given in this area, owing to the intensive poaching carried out by the inhabitants. Now, however, the settled area is increasing, and it became necessary in 1954 to start full control measures again. Nine elephant were shot, and the raiding herd, estimated to total 600, were pushed back into the National Park.

380. *Elephant movement.*—There has been much discussion as to the reason for the annual break out of elephant from the Murchison Falls National Park, southwards across the Masindi-Atura road. From recent observation it appears that the reverse may be the case. The majority of the elephant, particularly the breeding herds, seem to prefer the country outside the National Park, and only go back in to it when forced by circumstances. The first of these is that water in their favourite area becomes very short in the dry weather. There is always water in the rivers in the National Park, so they have to move to these. Secondly, elephant hate fire, and as the people living south of the road burn the grass every dry season, this also pushes the herds back into the National Park, where there is no one to burn the grass. As soon as the rains have made the new grass grow, the danger of fire is over, and there is water available outside the Park. The elephant then start moving slowly southwards, and cross the road at about the end of June. They remain south of the road until about November, when shortage of water, and the start of burning force them to move back northwards.

381. *Elephant's gall stone.*—A Game Guard brought in a gall stone from an elephant shot on control. He said the animal was a very old female. The stone was about the size of a hockey ball, and was built up concentrically in yellow and brown layers. It disintegrated when it dried out.

382. *Numbers of elephant.*—During the period, an attempt has been made to estimate the number of elephant in Bunyoro District. So far the conclusion has been reached that there are at least 2,000 in the district. This estimate has been made from a variety of information, including counts made from aircraft.

383. *Baby elephant.*—Early in 1954 a baby elephant was brought in by a Game Guard, after its mother had charged him and been shot. It was only about a fortnight old, and weighed 175 lb. An attempt was made to rear it and to send it to a Zoo in the United Kingdom, but unfortunately it died in Nairobi, when on the way. It was a menace to look after, as it refused to be left alone, even for a minute, without screaming its head off. Later it was found that it could be left for short periods shut up, with an old waterproof coat hanging where it could reach it. It would fondle this with its trunk, and would stay quiet for some time. Eventually it would discover the swindle, and start screaming again. To start with, as there was no teat available that was big enough, it was fed by squirting milk into its mouth with a syringe designed for filling car batteries, but it had an embarrassing habit of blowing it all back again at its keeper. At night it was shut up with a Game Guard. The first night he got no sleep as it kept climbing into bed with him and turning him out. Later, his bed was put on a table, and he got some peace! From observation of this elephant, it became clear that both the noises normally made by them, trumpeting and the so-called belly rumbling, are made in the throat. This does not seem to be generally realized.

384. *Numbers of elephant shot on control.*—During 1954 a total of 159 elephant were shot on control in Bunyoro District. This comprised 87 bulls and 72 cows. The total of 159 is 41 less than the 1953 figure.

ELEPHANT CONTROL—NORTH MENG0

385. Only one Game Guard was stationed permanently in North Mengo. He was based on Ngoma. During 1954 he shot 22 elephant; 10 bulls and 12 cows. This is two less than were shot in the same area in 1953.

NOTES ON FAUNA

386. PRIMATES. *Chimpanzee.*—Since the headquarters of the Range were moved to Masindi, away from the Budongo Forest, chimpanzees have not been observed as much as previously. However, they still seem to be as plentiful as before.

387. *Colobus Monkey.*—These are seen frequently, all over Bunyoro District, often well away from forest. It has been noticed that parties of colobus monkeys are frequently accompanied by a solitary blue monkey (see paragraph 183 of the 1953 Report, with reference to blue monkeys with chimpanzees). A colobus monkey spent some days up a tree in the middle of the township at Masindi. It was chased up by a dog, from which it was lucky to escape. How it got into the township in the first place is not known.

388. *Baboon.*—Baboon have been a persistent nuisance in many areas during the period. They are particularly fond of pawpaws and coffee berries, and are frequently seen in plantations of these. Two baboon poisoners are now at work in Bunyoro District, and have had fair success. Also many have been shot by members of this Department.

389. CARNIVORA. *Lion.*—Lion have caused no nuisance during the period. There was one alarm, but it turned out to be false.

390. One day the manager of the Bunyoro Agricultural Company was walking through long grass on the farm when he trod on something that moved. He stepped back, and a lion got up at his feet, gave him a hurt look and strolled off.

391. *Leopard.*—These also have caused no trouble, but two have been caught in traps set for pig, and have had to be shot by Game Guards.

392. *Spotted Hyæna.*—One of these recently attacked some cows at Masindi. The method employed by the hyæna was to get underneath, and pull off their udders. The cows had to be destroyed, but of course the meat was not wasted.

393. UNGULATES. *Buffalo.*—As was seen in the section on game control, these animals are the main targets for the owners of illegal rifles, and the wire snare experts. A great many wounded buffalo are found and have to be destroyed. They are very dangerous in this state, and two men have been killed in Bunyoro District by wounded buffalo during the period.

394. In May, 1955, Recruit Game Guard Nehemia Adjedra was attacked by one of these wounded buffalo, and fired three shots into it as it came for him. He failed to stop it in time, and was picked up on its horns by his trousers. He held on to the horns and was struggling to free himself, when the buffalo tried to toss him. A horn pierced his abdomen, fortunately without piercing the gut, and he then got himself free. The buffalo was speared by a party of men who were following to get meat. The Game Guard walked some miles back to his house, holding his insides in with his hand. Later he was brought to Masindi Hospital, and was operated on by the doctor. He brought his rifle back with him, and cleaned it while waiting for the ambulance. He is now completely recovered and back on duty!

395. While walking on the Kaiso Flats, the Game Ranger came across a "tame" buffalo, which stood on the path and would not move off. It was shouted at by Game Guards in the party, and the Game Ranger's dog ran in and barked at it. Still it would not move, so the party started throwing things at it. When a lump of rock hit it on the head, it condescended to get out of the way. Even then, it only went about 30 yards to one side, and stood there watching the party pass. It appeared to be in good health. It is only fair to say that all four members of the party were armed.

396. *Uganda Kob*.—These animals seem to have different breeding seasons in different places. Those on the flats at Buhuka and Kaiso dropped their calves in December, but those north of Butiaba did not do so until March.

397. Kob are extensively poached, particularly on the Lake Albert Flats. Near Kaiso, a trap line of over seventy snares was found, and there was evidence that in the dry weather of 1955 some 60 kob had been caught. Nearly all the remains found were of male kob, which indicates that they are more easily entangled by the horns. This is very fortunate, as the breeding rate cannot be much affected, and the remaining males have a more interesting life.

398. A kob was shot on the Buhuka Flats with freak horns. It was a female, which normally should not have horns, but this one had thin, brittle horns about 12" long, which were deformed into peculiar shapes.

399. On Kaiso Flats, a large number of the females are almost white. They are not albinos, but appear to be suffering from premature loss of pigment in the hair. Some people suffer from this too.

400. During 1954, a kob was shot because it had an apparent deformity of the head. It was found that it had a wire snare round its head, which had caused a festering and fly blown wound. One of the upper molars had been pushed inwards into the mouth. What appeared to be a growth under the jaw turned out to be the knotted end of the snare, embedded in the flesh.

401. *Oribi*.—Oribi are seen frequently in Masindi township. They appear in the European gardens and on the golf course. It is astonishing how little grass is necessary to hide them when they are lying down motionless.

BIRD NOTES

402. *Whale Headed Stork* (*Balaeniceps rex*).—These birds have been seen in the Murchison Falls National Park on several occasions. They appear in the swamps on the banks of the Nile, and in the papyrus islands where the river forms a delta in Lake Albert.

403. *Nightjars*.—During the first three months of 1955, there were large numbers of standard wing nightjars (*Macrodipteryx longipennis*) in Bunyoro District, in breeding plumage. This is in contrast to the pennant wing nightjar (*Cosmetornis vexillarius*) which are in their breeding plumage in Bunyoro from May to July.

404. *European Hoopoe* (*Upupa Epops Epops*).—There were large numbers of these birds in Bunyoro District during December, 1954. During a visit to the area between Kiryandongo and the Nile, over 50 were seen in one morning.

DISEASES OF GAME

405. *Rinderpest*.—Early in 1954, when rinderpest was rife in the Northern Range, West Nile Range, and the Belgian Congo, it was expected that it would only be a matter of time before it broke out in this Range. Fortunately, although several animals were reported as having died in remote parts of Bunyoro District, none of these was actually proved to have died of rinderpest. As the year progressed, the outbreak died down, and this Range was not affected.

406. *Anthrax*.—During March and April, 1954, numbers of hippopotamus were found dead from anthrax in the Nile between Lakes Kyoga and Albert. The disease seemed to have originated upstream, because several bodies were washed over the Murchison Falls. The disease did not spread south of the Nile, so this Range was not affected.

NOTES OF GENERAL INTEREST

407. *Accidents with rifles*.—During 1954, a police head constable, who has a game licence, went out to shoot a buffalo with a double barrelled .470. He fired at a buffalo, but the rifle did not go off. Thinking that he had a miss-fire, he opened the breach. In fact, he had a hang-fire, and when the breach was opened, the cartridge case was blown out and hit him in the face. A large flame followed, and he was quite badly burnt. On his return to Masindi, he was admitted to hospital.

408. Early in 1955, two hunters of the Tsetse Control Department were out shooting together. They wounded a buffalo, and it went into a patch of thick bush. They agreed that one should go round to the other side, while the other went through the patch of bush. Instead of waiting

outside as arranged, the one who had gone round entered the bush also, from the far side. When inside, he saw something move, and thinking it was the buffalo, fired. The bullet hit his companion through the heart, killing him instantly. This incident should be a warning to people hunting together. Never separate without very definite arrangements as to each other's movements, adhere to the arrangements and never shoot where you cannot see properly.

409. *Swiss Family Robinson*.—During January, 1954, the Game Ranger took two Swiss visitors, a man and wife, to Buhuka. They were accompanied by a professional hunter. When the time came to return, the engine of the motor launch would not start, and it was apparent that it could not be repaired on the spot. As Buhuka is 65 miles from Butiaba, and in an isolated place, it was realized that a call for help would take days to get through. A message was sent by runner, but arrangements were made to sail the launch to Butiaba. Masts and a sail were made from tent poles and a sheet of canvas, and the party set off, with much misgiving on the part of the Swiss. During the trip food became short, and finally the Europeans were living on tea, a sort of Swiss bovril, and brandy. The Africans had some extremely ripe fish, and tea. The party arrived in Butiaba after 45 hours from Buhuka, and 24 hours ahead of their distress message. The Game Ranger applied to the Commander, Railways Steamers, Butiaba, for his Master's Certificate in Sail!

410. *Range Tests*.—As a result of the number of animals found wounded, it was arranged with the Administration, during 1954, that all applicants for Game Licences, whether new or renewal, should be tested on the rifle range. The test requires five consecutive shots in an 8" bull at 50 yards. Shots on the rest of the target do not count. This is not difficult, and many applicants have succeeded in passing on their first try, while others have passed on their second or third try.

411. Of the applicants who have failed to pass, some shoot incredibly badly. One man knelt down to shoot, and his first round knocked him flat on his back. He had held a licence for years. Another not only missed the target, but missed Kigulia Hill, which acts as the stop butt for the range. The bullet went right over the top. The full size of the target is 16" square, with the 8" bull marked on it in black. Many applicants can only put one or two shots on the target, and some miss it altogether. Since the tests have been going on, three rifles which were in a dangerous condition have been found. These have been condemned by the Administration, and placed in police custody.

412. *Hunter attacked by Python*.—Mr. Fazal Haq, Honorary Game Ranger, reports that in March, 1955, a hunter of the Tsetse Control Department was caught by a python (*Python sebae*) while out hunting. He managed to shoot it before it had done much harm. He was bruised on the leg, and the python also bit him on the thigh. The wound healed without trouble.

Western Range—Game Ranger's Report

INTRODUCTION

413. This period will be remembered by the great occasion of the visit of Her Majesty Queen Elizabeth to the Queen Elizabeth National Park, where she both photographed and observed the game of Toro.

414. Elephant control again took up most of the time of the departmental staff, particularly so during 1954, as the rain continued all through the year, causing widespread elephant movement. This resulted in less time spent in game areas, so that trapping, snaring and illegal hunting in general have been common practice. Fortunately many peasants have abandoned outlying shambas and opened up land nearer their Gombololas, on the instructions of their Chiefs. This, of course, makes control work easier, and lessens the danger of shambas being destroyed.

415. The game situation remains unchanged, but the western extension of the railway has upset the traditional elephant movements along the River Katonga; but many herds of eland, topi, zebra and buffalo can still be seen within a few miles of the river.

STAFF

416. *General.*—The staff consists of one Game Ranger, one Game Assistant, fifteen Game Guards, six Game Scouts and Gun-bearers.

417. The Game Ranger spent most of his time in Toro, with regular visits to Mubende, and, owing to the death in July of the Game Ranger, Southern Range, some time in Ankole also. The Game Assistant was transferred temporarily to the West Nile to help in the anti-rinderpest activities early in the year, and later to Ankole until a new Game Ranger was posted there. Twelve Game Guards and six Game Scouts and Gun-bearers have been operating in Toro, and three Game Guards in Mubende.

418. Very few changes have been made amongst the Game Guards but a number of dismissals and replacements have been effected amongst the Game Scouts, as, even with the increase in pay it is difficult to recruit trustworthy scouts.

419. The usual number of casualties have been reported, none of them fatal, due both to elephant and buffalo, except for the mysterious disappearance of Game Scout Constantino Obido, who vanished early in April with his 300 rifle, and has never been seen since. It is rumoured that he was accidentally speared in a buffalo hunt near the Toro Game Reserve and his hunting party buried him with his rifle and were afraid to report the incident. Other rumours include that he is hunting in the Congo. Despite the efforts of the police, the Game Ranger and the Game Assistant, no trace has so far been found of the man or his rifle.

420. *Accidents to Game Guards and Scouts.*—One Game Guard was injured by a buffalo and was admitted to hospital with broken ribs. He

had put two shots in the animal as it charged, but it bowled him over, and his porter, with great presence of mind and courage, pulled the rifle out from under the Guard and shot the buffalo dead.

421. Another Game Guard was charged by an elephant. He could not open the bolt of his rifle and threw himself under a bush as the elephant charged. It trod on the rifle and smashed the woodwork.

422. One Game Guard was chased and caught by an elephant. He was patrolling when he saw vultures and hoped to find meat left perhaps by lion or leopard, only to be confronted by an infuriated cow elephant which had just dropped a calf. He fired, but the elephant caught the rifle, slung it away, and tore off his shorts and shirt. It then changed direction and went towards the porters who eluded it. They later recovered the damaged rifle.

423. Another Game Guard was knocked down by a buffalo; he managed to grab the animal's horns and avoided being trampled on, but was dragged back and forth at the buffalo's mercy. His porters had scattered, so that his calls for help and for someone to hand him his rifle were in vain. Then the buffalo again passed over the spot where the rifle had been dropped, and the Guard was able to pick up the rifle and shoot the buffalo, one-handed! His party promptly returned, disposed of the meat and carried him to Katwe hospital, where his cuts were stitched up and he was treated for shock and bruises.

ILLEGAL KILLING OF GAME AND BREACHES OF THE GAME LAWS

424. A number of poachers have been caught during the year and several licence holders prosecuted for game offences. A camp has been built on the River Wasa in the Toro Game Reserve for a resident Game Scout and this has proved a deterrent to poachers.

425. A certain amount of Government ivory has been stolen, some actually from Gombololas, but the bulk of it from elephant caught in pits, traps and snares.

426. There would appear to be a fair amount of "found ivory" hidden, with the idea of selling it to unscrupulous traders or licence holders. As a bigger reward is now being offered, it is hoped that a lot of this ivory will come in.

427. The use of traps of all sorts is widespread. Both buffalo and elephant are caught in this manner, but the buffalo especially get a good deal of their own back by frequently breaking away and damaging, more or less seriously, the owners of these traps.

428. Kyaka county, Toro, is known to be hunted by poachers from Mubende. These are very elusive hunters and no patrols or raids have yet surprised them. A man of Kijura, long suspected of hunting in the Toro Game Reserve, has at last been caught and sentenced for illegal possession of arms. One Saza Chief in Toro and his hunters have been

convicted for unlawfully shooting an elephant. A Gombolola Chief in Kibale County, Toro, was nearly killed by a drop-spear when hunting his licensed elephant.

429. Poaching camps have been found along the Katonga River railway extension, containing dried fish, warthog and hippo meat. Even if the poachers escape they lose all their equipment when the camps are burned down and their dogs captured or shot.

430. There has been heavy poaching east of Lake George. On many islands until recently famous for their abundance of game, only a few tracks of buffalo and elephant and the very occasional reedbuck can now be seen. But fish smoking camps are found, many camps containing hippo bones, and they give the obvious answer to the absence of game.

431. In Mubende district court 14 game cases and eight in relation to the illegal possession of arms and ammunition were successfully prosecuted.

GAME RESERVES AND SANCTUARIES

432. The construction of a track in the Toro Game Reserve has been started. The aim of this track is twofold. Firstly for easier checking on the poaching, secondly to open up the country for sportsmen who are interested in hunting and fishing as well as photographing game. This is possible in the Ndaiga and Nyakabisu areas, outside the reserve. Fair sized herds of kob, waterbuck, buffalo, elephant, lelwel hartebeeste, the occasional lion, and reedbuck occur.

433. A camp was established in the heart of the Reserve, on the Wasa River. Here a sudden storm blew a uniport hut away, while the Game Ranger's family were sheltering in it. Nobody was hurt and the hut was found '200 yards away, horribly buckled. It was hammered out and re-erected. It is still standing.

434. Bridging the river Wasa has proved something of a problem. Two pole bridges have been washed away by floods. The bridging will be easier to accomplish when there is not so much rain. This year the grass has grown almost faster than it could be cut down, and the swampy nature of the country and the floods have all hindered the work.

435. There are plentiful herds of kob, but the lack of youngsters has been noticeable. This can be put down to the poachers as well as to the lion, leopard, hyaena and other predators. If poachers would confine themselves to adult males they would do comparatively little harm. The Game Ranger has frequently seen prides of four, five and six lion in and near the Reserve.

436. Large gangs of poachers are chased out of the Reserve over and over again. Yet they return to the scene of the crime as the good hunting in the Toro Game Reserve makes it worth risking the punishment.

437. *Toro District*.—During control operations a total of 252 elephant were shot, 132 male and 120 female. The number shot is larger than usual, but every effort was made to keep the number as low as possible: instructions were given that if possible only one elephant at a time should be shot from each raiding herd.

438. Several large tuskers have unfortunately been shot accidentally on control by the Game Guards. This is because control work has, to a great extent, to be carried out by moonlight, in jungle or high elephant grass, when it is very difficult to judge the size of the quarry.

439. Complaints of damage were fairly general but unfortunately a great number were, as is often the case, found to be incorrect, whilst in other cases where very real damage was done, no report had been made by the Chief. The Game Ranger has tried to send his Guards to the main danger areas, irrespective of whether reports are received or not. The increasing number of elephant shot can be put down to the following causes:—exceptionally prolonged rains; the railway construction¹ in previously uninhabited country along the Lake George escarpment and the river Katonga and its tributaries, upsetting the traditional elephant routes; increasing expansion of settlement, particularly in Busongora; increase in number of Game Guards at the urgent request of the people; and ever increasing numbers of visitors to the National Park causing the elephant to become familiar with people and consequently bolder when raiding cultivation.

440. Experiments in new methods of discouraging elephant from entering cultivation have been tried this year. Verrey-light pistols were used with no success. On one occasion the Game Ranger was called by an African to deal with an elephant which had visited the man's banana shamba on two successive evenings. The Game Ranger told his gun-bearer to fire a verrey-light pistol when they had located the sound of the elephant, although it was impossible to see the animal as there was no moon. Although the elephant could not have been more than twenty yards away, the Game Ranger could not get a shot. The verrey-light was used twice and one of the cartridges must have landed within a few feet of the elephant, yet all it did was to drag a banana tree into the elephant grass and continue munching. The gun-bearer was then instructed to fire as close as possible to the elephant, while the Game Ranger waited for it to run across an open place near by. Three shots were fired before it moved off, but it crossed too far away for a shot. The elephant returned two hours later, and again the following night.

441. The Game Ranger is not satisfied that the shot-gun method of shamba protection is a good one, as, if the elephant turn and charge, there is no time to change over to a rifle. Shooting in shambas in moonlight, the hunter never knows if the elephant has his scent.

442. In the small area of Busongora county between the National Park and the Congo Parc National, there is often much damage done. This is important country for food crops, but the elephant are very frequent visitors at night. An attempt was made to discourage them with bird-shot but the elephant charged, the shot gun dropped as the Guard changed to his rifle, and the elephant smashed the shot gun. Another elephant charged and picked up the Game Guard's porter. The Guard was afraid to shoot as his man was being waved about in front of the elephant. Fortunately the man's clothes tore and he got away, while the Guard ran round to the side in dense elephant grass and shot the elephant. The porter was taken to hospital, but apart from losing his shirt and pants was unharmed.

443. An interesting attempt was made by Honorary Game Ranger, Mr. Stead. Having located elephant in his bananas, from the air, Mr. Stead dived at them repeatedly in his private aircraft. After a first moment of surprise, the raiders took no notice whatsoever and continued their meal calmly!

444. The elephant in the Toro Game Reserve are very bad-tempered. There have been numerous incidents reported. When the Game Ranger was looking for a bridge site he was twice chased out of the Wasa Valley by a cow and calf, and one cow actually trampled out a grass fire lit for the purpose of frightening her away! Another cow with a calf chased the lorry for 200 yards. The labour were chased into their huts by two cows with a calf and the Game Guard had to head-shoot (and so stun) one of them before they would retire. This may be because the Congo poachers spear the young elephant, and the cows with young have also to be on guard all the time against lion.

445. *Mubende District*.—A total of 18 elephant was shot in protection of cultivation, comprising 13 males and 5 females.

446. The annual movements of elephant were normal. Damage done to crops was in no way worse than in previous years and Guards dealt with marauders adequately well.

447. The Assistant Resident, Mubende, reports that farmers and responsible persons still appear to have only one axe to grind; to obtain as much meat as possible and to exterminate all elephant, which in fact do far less damage than is alleged. This, to their minds, should be a simple accomplishment for "droves" of Game Guards with inexhaustible supplies of ammunition. All explanations, lectures, etc., that have been given to chiefs and others over the last four years on the objects of game control have apparently made not the slightest impression.

448. He states that this came to the fore during the year by an apparently planned campaign by two counties to raise the issue of game control. Allegations were such that at one time it read as if the entire population of Mubende District was evacuating south in the face of a fierce onslaught by "drilled" elephants. Immediate investigations on the spot

proved the worth of this hysteria—apart from the odd shamba raider, the elephant herds were placidly minding their own business, free of the organising ability of a “Hannibal” or “Scipio Africanus.”

449. In July a large herd of elephant came very close to Mubende Township. In fact the Superintendent of Her Majesty's Reform School (which is within the Township boundaries) reports that on one night noises in the undergrowth turned out to be NOT escaping boys but elephant.

450. The Protectorate Agent reports encountering elephant within six miles of the township. At one time he held within his rifle sights both the White Fathers Mission, Mubende, as well as a cantankerous young bull. He spared them both.

451. On one occasion elephant held up the Rural Dean (WFM) at night on the Masaka road for nearly half an hour as they leisurely crossed the road nearby. At one moment they surged around his car, fortunately no doubt in sympathy with the occupant, busy minding their own business.

NOTES ON FAUNA

452. PRIMATES. *Chimpanzees*.—These animals continue to flourish in the Kibale Forests. They are often heard but seldom seen.

453. *Baboon*.—Some complaints of damage to crops by baboon and monkey were received, mostly round Ruwenzori foothills at Bugoye and Bwamba.

454. *Colobus*.—Colobus monkeys are general throughout Toro forests, and in parts of Mubende. Unfortunately the Bakonjo and the people of Bwamba eat them, in spite of the fact that they are protected. Not quite so many skins have been noticed recently adorning Bakonjo or the bicycle saddles of Toro.

455. CARNIVORA.—*Lion*.—In Toro District seven lion were killed on control operations around Rwebisengo in the Semliki valley, where they attack the cattle frequently. Several lion have been killed in this neighbourhood by licence holders. One or two prides of lion in the Queen Elizabeth National Park and its neighbourhood have behaved very well throughout the year by showing themselves to visitors.

456. *Leopard*.—These are very numerous in the Toro Game Reserve. Elsewhere throughout Toro there are the usual reports of loss of goats, sheep and dogs. Several instances have also been reported from Mubende.

457. *Golden Cat*.—Golden cat have been reported in Bwamba. Mr. C. J. P. Ionides, Senior Game Ranger, Tanganyika, made an attempt to collect one, but was unsuccessful.

458. UNGULATES. *Buffalo*.—Buffalo continue to hold their own in the less inhabited parts of Toro, and small herds are scattered about Mubende District.

459. The two tame buffalo at Kyanjojo, which were a source of wonder to motorists for their cow-like aspect, have, alas, been eaten by their owner. The buffalo lived at the roadside and totos amused themselves by stoning the animals, which got out of hand and had to be killed.

460. Buffalo are still regarded as a source of meat supply in Toro, and the limiting to six of the number permitted to be shot on a licence has, to a certain extent, reduced the slaughter. Near Fort Portal a man of Nkoma, Kibale, was hunting a buffalo when the beast "turned the tables", charged and killed him.

461. Near Fort Portal a buffalo was caught in a wire noose trap. The trapper and a friend tried to kill the ensnared buffalo, but the buffalo killed the trapper and injured the friend before breaking away.

462. Some buffalo were shot for the people camped at Mubuku and Muhokya for the Queen's visit. The Game Guards detailed for this duty found a number of buffalo caught in pits and snares. One of the buffalo caught in a pit was taken by the Game Guard to the Mubuku camp. The pit digger was furious and threatened to poison the Guard!

463. A buffalo in a wire trap near Kibale, Bunyangabu, killed the trap setter and got away. Guards tracked and killed the buffalo. Several buffalo the Game Ranger shot had previous wounds and a large percentage seem to have been harried by hunting parties or damaged by traps and snares. It is not surprising that the people and hunters are being attacked by enraged buffalo.

464. *Eland*.—Some large herds of eland were seen by the Game Ranger in eastern Toro, near the Katonga River.

465. *Waterbuck*.—Waterbuck continue to be numerous in most parts of Toro and a few can be seen in Mubende District. In February, one of these animals jumped from a high bank on to the roof of a car travelling on the Fort Portal-Mbarara road. The roof of the car was crushed and the windscreen shattered, and although the occupants miraculously escaped injury, the waterbuck was killed.

466. *Bushbuck*.—The bushbuck have been hunted out in most districts where pig hunting with nets is practised. In other parts of Toro and Mubende, away from cultivation, they can still be found.

467. *Uganda Kob*.—Kob flourish in the Semliki flats and Toro Game Reserve. Several albinos have been observed among the herds in the Toro Game Reserve.

468. *Lelwel Hartebeest*.—continue to exist in small herds throughout the Toro Game Reserve.

469. *Topi*.—Small herds have been observed along the Katonga river and in Kibale County, Toro.

470. *Giant Forest Hog*.—have been in Kyaka County and along the the Muzizi River.

471. *Bush Pig*.—These continue to be Toro's number one enemy to food crops. They are hunted regularly but are very common still.

472. *Wart Hog*.—Still plentiful in Busongora County and all short grass regions of Toro.

473. *Hippopotamus*.—A few have been killed near the Fort Portal Township where they had been damaging crops. A large number are trapped by snares and pits south of Lake George, where they are very plentiful.

474. *Zebra*.—A few herds of zebra have been seen on the escarpment south-east of Lake George and along the Katonga River.

475. *Water Chevrotain*.—Mr. C. J. P. Ionides, Senior Game Ranger, Tanganyika, tried to obtain a specimen in Bwamba along the Semliki River, where Dr. Haddow, of the Virus Research Institute, had previously obtained two skins at a pigmy encampment. Unfortunately Mr. Ionides was unable to achieve his object.

Southern Range—Game Ranger's Report

INTRODUCTION

476. The year was marred by the tragic death of Major R. E. P. Wyndham, M.C., who was killed on the 13th July, 1954, whilst lion hunting near Sanga in Ankole District. Major Wyndham had only taken over the Range some eight months previously, and his vigorous crusading in the cause of game preservation was just beginning to take effect when his death occurred: As it was some months before a replacement could be appointed there was of necessity a hiatus which was bound to have some harmful effect.

477. The highlight of the year from the fauna angle was the visit to Ankole on the 30th April, 1954, of Her Majesty the Queen, accompanied by His Royal Highness the Duke of Edinburgh. Her Majesty called at Katunguru during the course of her visit to the National Park which she had graciously consented should be named after her.

478. The Department made a small contribution towards feeding the assembled multitudes of schoolchildren, boy scouts and others, by the sacrifice of two buffalo shot by a Game Guard on the Chambura River nearby.

479. The game situation has been in general satisfactory though there has been a serious outbreak of organised poaching by lorry-borne "butchers" from Buganda making hit and run raids into eastern Ankole. A number of convictions and heavy sentences have however now brought this under control.

480. The construction of the western Uganda extension railway along the Katonga valley has continued to cause considerable disturbance

among the elephant and to drive them south into cultivated areas where they are not normally found. This has necessitated rather more shooting than one would wish.

481. Buffalo, which are more or less ubiquitous throughout Ankole and much of Kigezi have caused some damage in the newly opened resettlement areas and much time has had to be spent in trying to control them.

482. There have been no serious outbreaks of rinderpest or other diseases among game.

483. Thanks are due to the Honorary Game Rangers, and in particular to H. Clifford, Esq., who held the fort most efficiently at Mbarara for some time after Major Wyndham's death, and to E. A. Fangoudis, Esq., who has been of great assistance in helping to supervise the Game Guards in Kigezi and in bringing to light several serious game offences. Thanks are also due to various members of the Administration and police for their continued co-operation and assistance.

STAFF

484. *Officers.*—Major Wyndham was in charge of the Range from the beginning of 1954 until his untimely death in July. A Fisheries Officer on special duty in Ankole took over in August and "doubled" as a Game Ranger until the present Game Ranger arrived on transfer from Tanganyika in December.

485. *Game Assistants.*—The Game Assistant from Toro was seconded to this Range from July to December, 1954. A new Game Assistant was posted to Mbarara in January on first appointment. The value of the new post of Game Assistant has already been proved beyond doubt and is paying considerable dividends in improved discipline among the subordinate staff and in the increasing number of convictions for game offences.

486. *Game Guards/Scouts.*—The establishment of Game Guards in the Range has been increased to 18. This has still proved hardly adequate for the amount of patrolling and control work which has to be undertaken. Unfortunately it has been necessary to cut out a good deal of "dead wood" among the Game Guards, but this has resulted in a very much higher standard of efficiency and discipline.

487. *Casualties.*—Apart from Major Wyndham there were no deaths or serious injuries during the year though there were several close calls with elephant and buffalo.

ILLEGAL KILLING OF GAME AND BREACHES OF GAME LAWS.

488. The greatest threat to the game in this area comes not from licence holders but primarily from unlicensed Africans from Buganda, and particularly Masaka District, armed with stolen or borrowed rifles. These people have been operating in the thinly populated grassland country of eastern Ankole, coming across country in lorries with their number plates obscured, shooting all they can and then clearing off back to Buganda with the meat.

489. A favourite method is for two or three men with rifles or shot-guns loaded with lethal ball to sit over a waterhole or salt-lick on a bright moonlit night and wait for a herd of buffalo or eland on which they then open rapid fire and, with any luck, bag three or four. As game meat sells in Masaka at Shs. 1/50 to Shs. 2/- per pound, two or three eland or buffalo bring in a handsome profit. The establishment of a number of permanent Game Guards' posts in the more vulnerable areas combined with several successful prosecutions now seems to have put a stop to the activities of these big time lorry-borne poachers in Ankole.

490. A number of illegal firearms were recovered both by the Police and by members of this Department. One Game Guard arrested single handed a notorious bad hat who was armed with a '45 revolver from which he was firing '303 rifle ammunition! He had apparently been terrorizing the neighbourhood and was wanted by the Police in connection with three cases of arson. The same Guard, together with his porter, was later responsible for recovering an illegal '303 military rifle and an 8mm. sporting rifle with which two men were hunting buffalo in the Masha Animal Sanctuary.

491. Most of the illegal firearms come from Masaka District where, apart from the comparatively large number of stolen precision weapons in circulation, a very ingenious and well made type of bolt action shotgun is produced locally. Eight cases concerning illegal firearms were brought to court in Masaka in the last six months of 1954 alone.

492. Poisoned arrows, pits, gintraps, snares and parties of men with dogs and spears also continue to take their toll. Of these the worst by far are the wire snares manufactured from discarded steel wire cable stolen from the contracting firms working on the railways and from other sources. These are set on game tracks and may catch anything from the smaller animals up to buffalo and elephant. They do not kill outright and cause the most terrible suffering before the beast finally dies of strangulation or other injury.

493. It is worth quoting from a letter of the Field Officer, Tsetse Control Department, stationed in northern Ankole, in which he reported the finding of an elephant killed by a wire snare:—

"... The cause of death, immediately apparent, was a $\frac{1}{4}$ -inch cable slipknot snare, still tightly drawn around the putrefying trunk, and approximately half way from the tip. There being no vegetation in the immediate vicinity, it would appear that the elephant had succeeded in tearing the cable from the tree or bush to which it was secured.

"The agonies suffered by the elephant, rendered incapable of drinking and able to eat only with difficulty, can be imagined. Death must have been painfully slow in coming, and it is to be regretted that the unfortunate animal was not seen and destroyed.

"In the opinion of the writer these pernicious cable snares annually cause more deaths among game throughout the Protectorate than do licensed hunters or the possessors of illegal firearms . . .".

494. A total of 70 convictions was obtained for offences under the Game Ordinance. In addition to the above the following convictions were obtained for illegal possession of firearms under section 12 of the Arms and Ammunition Ordinance:—

Africans	...	14
Asians	...	1
Europeans	...	1
		—
TOTAL		16
		—

GAME RESERVES AND SANCTUARIES

495. In the Districts of Ankole, Masaka and Kigezi which comprise this Range there are two areas, apart from the National Park, in which game is afforded complete protection. These are the Masha Animal Sanctuary in Ankole (approximate area 230 sq. miles) and the Kigezi Game Reserve (approximate area 184 sq. miles). Their combined area (415 sq. miles) totals only 3·4% of the total area of the three Districts concerned.

496. These two areas are widely separated and afford protection to completely different ecological groups of fauna. Both are, unfortunately, threatened by demands for resettlement areas despite the fact that there are large tracts of country adjacent to them which are still very sparsely inhabited and would appear to be equally suitable for settlement.

497. The statement has often been heard that "now we have National Parks we do not need Game Reserves or Sanctuaries", but it must be remembered that in some cases the few Game Reserves and Sanctuaries protect certain ecological groups which are not found in the National Parks.

498. *The Kigezi Game Reserve* consists of a narrow strip of forest and grassland running along part of the southern boundary of the Queen Elizabeth National Park and then in an attenuated two miles wide belt along the Uganda/Congo border, which here also marks the eastern limit of the Belgian Parc National Albert.

499. This Reserve carries an unusually heavy game population for its size, including large numbers of elephant, buffalo, topi, Uganda kob and waterbuck, while chimpanzee, giant forest hog and other species are to be found in the riverain forest. Its main value is, however, as a buffer both to our own and the Belgian National Parks especially as it includes two rivers at which animals from the Parks water and also the Maramagambo Forest which is much frequented by elephant herds from the Queen Elizabeth Park who probably retire there to breed. Large numbers of elephant are also wont to move from the Albert Park into the southern part of the Reserve, particularly during the rains. About 10 sq. miles was excised from the Reserve this year to make room for cultivators.

500. *The Masha Animal Sanctuary* lies just to the east of Mbarara and consists mainly of open grassy hills interspersed with scrub filled valleys and some patches of forest. It contains fair numbers of eland, buffalo, zebra and topi, and some roan, while situtunga have been reported from Lake Mburo on the eastern boundary of the Sanctuary and klipspringer are known to occur on some of the hills. There are a fairly large number of people living in the western part of the Sanctuary but hardly any complaints of damage to cultivation have been received and there appears to be no conflict between human interests and those of the game.

501. *The Gorilla Sanctuary* on the Virunga volcanoes in Kigezi District has recently been the subject of a complaint by a party of visiting scientists who stated that the bamboo forest was being cut down and the gorilla driven out. This is not in fact the case. The boundary of the Forest Reserve which originally coincided with that of the Sanctuary has been withdrawn about one mile to allow room for settlement but, as the few gorilla that live on the mountain are normally confined to the higher altitudes and as there will be no cultivation above the new Forest Reserve boundary, it is unlikely that the gorilla will be disturbed. One family of gorilla was observed on the mountain during the year. However, the majority of the gorilla in Uganda live in the Kayonza Impenetrable Forest and not in the Sanctuary.

GAME TROPHIES

502. An elephant with tusks of 91 and 88 lb. respectively was shot in Kigezi District, which is unusually large for this area. In fact, of 24 elephant shot by licence holders in Ankole and Kigezi the average weight of tusks was only 35 lb. each.

503. No unusual trophies have been recorded during the year but some exceptionally good waterbuck and reedbuck heads have been observed in southern Ankole, also a few fine buffalo of about 50-inch spread. There is no doubt that this area can offer very worthwhile trophies to the discriminating sportsman who is ready to hunt on foot rather than in a motor car.

ELEPHANT CONTROL

504. Seventy-two elephant were shot on control in the Range during the year—11 less than last year. Of these 30 were shot in Ankole, 32 in Kigezi and 10 in Masaka.

505. The majority of complaints of damage to cultivation concerned elephant, with buffalo a close second. In Ankole most of the trouble has been caused by herds moving up the escarpment from the Kalinzu Forest and the Queen Elizabeth National Park into Buhweju, Igara and Bunyaruguru and also from the Katonga valley south into Mitoma and, occasionally, Nyabushozi counties.

506. This year there has also been rather more movement than usual from Tanganyika northwards over the Kagera into Isingiro County.

507. In Kigezi District elephant are only permanently resident in the west and north though there is considerable seasonal movement from the Congo, especially during the rains.

508. In Masaka there has been occasional trouble with herds moving north from Tanganyika or south from the Katonga but on the whole the District is too closely settled to attract elephant.

509. Despite the constant complaints about elephant they do not in fact do a fraction of the damage to crops of that caused by pig, baboon and monkeys, and there is little doubt that the majority of complaints concerning both elephant and buffalo have again been inspired either by a desire for meat or by fear of the close proximity of large and potentially dangerous animals—or both.

510. There has continued to be a certain amount of disturbance of elephant in the Katonga valley by railway construction work, but the line should soon be completed and it is hoped that they will then settle down to a peaceful co-existence with the trains that will rumble through their territory.

511. The abandonment of the proposed sugar farming scheme on the Chambura was a source of considerable relief as, had it been carried through, the protection of the sugar from the large numbers of elephant and other animals in the area would have been an almost impossible task and would most certainly have involved the unnecessary slaughter of very large numbers of them with disastrous consequences to the adjoining National Park.

512. In Ankole small groups of elephant have paid brief visits to parts of Nyabushozi and Kashara counties where they have not been seen for 10 to 20 years. They may be extending their range but this phenomenon is more probably due to the railway construction in the Katonga valley mentioned above.

NOTES ON FAUNA

(a) Mammals

513. PRIMATES. *Gorilla*.—Gorilla have been encountered both in the Gorilla Sanctuary on Muhavura and in the Ntundule area of the Impenetrable Forest. In the first case a family of about ten was seen and in the second the Agricultural Officer, Kigezi, and the Senior Soil Chemist were charged by a large male which was acting as rearguard to a family group.

514. The Agricultural Officer in his account of the latter episode says that a party of about five or six gorilla were contacted but could not be seen because of the dense foliage and tree ferns. An attempt was made

to follow them but eventually it became apparent that the gorilla had observed their approach and were making off. It was decided to make a quick rush up the valley side after the retreating gorilla in the hope of catching a glimpse of them.

515. The Agricultural Officer stated in his own words:—"We started quickly up the valley side, when almost immediately a very loud roaring yell was heard which brought the party to a standstill.

516. "Immediately following this blood-chilling cry a large gorilla was sighted charging down the slope on all fours, heading straight for us. All this happened very quickly indeed, and apart from the difficulty of moving quickly in the dense growth there was no time to do anything other than watch the gorilla approach.

517. "One of the Batwa guides was standing more or less in the path of the charge, whilst Dr. Chenery and I were on either side with the rest disposed behind us. I pulled the Mutwa out of the path of the charge, more with the intention of using him as a shield than anything else, I regret to say, and then stood watching the gorilla approach. The gorilla's momentum charging down the slope was very considerable, and I was watching his face closely as he approached; he had a fixed, rather terrifying expression on his face and seemed to be deliberately charging the gap in our ranks. As he flashed between us I saw the silver-grey patch on his back, which is normally a sign of an adult male. He made no attempt to stop but carried straight on through us; whether his momentum was too great, or whether he was as scared as we were I do not know. Immediately after he had passed through us the Mutwa jumped up and down making loud noises, saying that sometimes the charge was repeated. However we saw no further signs of the gorilla and after lunch returned to camp. The whole episode from the initial roar to the gorilla charging through us probably lasted 30 seconds."

518. It is noteworthy that all recent observations have indicated that gorilla do not, as was previously thought, make their nests or beds up trees like chimpanzees, but only on the ground.

519. *Chimpanzee*.—Large troupes of chimpanzee have been observed in the gallery forest along the Ishasha River in the Kigezi Game Reserve. They were living in fairly close proximity to both baboon and colobus.

520. *Baboon*.—Baboon continue to cause considerable damage to crops, particularly in western Ankole and Kigezi. Five baboon poisoners are employed by the local government in western Ankole to do the work which leopard could do rather more economically if so many of them were not trapped for their skins. 1,017 baboon were trapped or poisoned in Kigezi during the year.

521. Baboon and vervet monkeys have caused a good deal of damage in Masaka district, especially in Koki and Sesse Sazas, but it is reported that chiefs are loath for their own people to be trained as poisoners lest they are tempted to try their skill on humans!

522. CARNIVORA. *Lion*.—Lion have again been troublesome in Mawogola county of Masaka district where they killed three Bahima herdsmen and numbers of cattle. These lion are not man-eaters in the true sense, the men having been killed while defending their cattle and not taken deliberately.

523. These outbreaks are sporadic and it is clear that the lion are not permanently resident in the area. Attempts have been made to hunt them both by Game Guards and by the Game Ranger but so far without success.

524. A pride of lion became very troublesome in the Sanga area early in 1954. It was while trying to deal with this pride in July that Major Wyndham was killed, but two large males were accounted for at the time. A few days after this tragic accident a lioness from the same pride was shot by a Game Guard after she had attempted to get into the camp of a Geological Department driller. Not long after two more were accounted for by Mr. Shah Karam, a professional hunter who has worked for the Game Department from time to time. It is not so long ago that the Sanga area was infamous for its man-eaters.

525. A lioness was run over by a lorry on the Masaka road, while another, a reputed man-killer, was reported as having been shot by a missionary at night in the head-lights of his car in mistake for an eland (some lion!).

526. The presence of olive-green coloured lion in Kalinzu Forest has been reported by a local sawmill. The collection of one of these unusual animals is awaited with interest!

527. A lion killed and ate a fish poacher near Katunguru one night whereupon the Fisheries Officer, not slow to seize an opportunity, let it be known among the local people that he had discovered the secrets of lycanthropy: It is reported that fish poaching in the neighbourhood has practically ceased!

528. An unusual occurrence was reported from Kigezi District by Mr. Fangoudis, an Honorary Game Ranger. He relates that, noticing vultures circling in the sky one morning he went to investigate. As he approached the place, seeing a lioness slink away, he made sure that he would find a lion kill, but what in fact he found were three dead lion cubs and a dead warthog minus its head.

529. The events which had led up to this curious little tragedy of the bush are a matter for conjecture. But as far as Mr. Fangoudis could make out from the spoor and other scanty evidence available it would appear that the lioness had been asleep in the shade of a bush while her three young cubs had been amusing themselves nearby. Seeing a rather stuffy looking old warthog wander past they had immediately rushed after him in a spirit of exuberance, either in the hope of making a kill and so showing mother what clever independent children they were or, perhaps, just to tweak the

ridiculous looking tassle on the end of his tail. Anyway, whatever the reason, it was a very rash act on their part for the warthog was feeling liverish that morning and killed all three of them before their mother woke up and realised what had happened. When she did she was naturally somewhat put out and, seizing the offending warthog, bit its head off.

530. UNGULATES. *Buffalo*.—Of 79 complaints of game damage investigated and dealt with, 30 concerned buffalo. Buffalo are rather unfortunate in that when dead they provide a very large quantity of edible meat, consequently they come in for considerably more than their fair share of unpopularity when alive.

531. A buffalo has only to appear on the horizon within five miles of cultivation and a man sets off post haste for the Game Ranger's office in Mbarara clasping a pathetic bundle of tattered maize stalks. He arrives with all the appearances of an Olympic torch-bearer, triumphantly flourishes his bundle of greenery and says "Buffalo—look, this is all that's left of my shamba, Bwana. Please won't you send an askari to shoot some of them?".

532. Buffalo are probably the main target of both the poacher armed with an illegal rifle and of the licenced "butcher". This is because of their potential value as a source of meat and also of their relatively large numbers. Unfortunately of the buffalo fired at by these gentry only a comparatively small proportion are killed, with the result that there are an uncomfortably large number of wounded and very unfriendly buffalo walking about. Some indication of the seriousness of this menace is given by the fact that of the last four buffalo which the Game Ranger has had to shoot in eastern Ankole every one has had an old bullet wound somewhere in it. Several Africans have been badly injured by wounded buffalo but it is surprising that there have not been more.

533. An unusual occurrence was observed when buffalo hunting in Kigezi district. A bull—one of five—was shot and dropped, whereupon the other four started to butt it, standing back a pace or two and then butting again. As far as one could see their intention seemed to be to move it bodily or lift it on to its legs, rather than to inflict a wound upon it. They continued this performance for over five minutes, and only allowed themselves to be driven away with the greatest reluctance. Afterwards it was found that the dead animal had been moved several yards from its original position but that although there were horn marks on the hide it had not been punctured.

534. *Eland*.—These animals are reasonably plentiful in eastern and southern Ankole and judging by the number of calves appear to be breeding well. The herds are very frequently accompanied by zebra.

535. A reliable observer reports an interesting encounter between eland and hunting dog near the Ruizi River in the Masha Sanctuary. He says that the herd of 83 eland was accompanied by one zebra. A group of seven or eight hunting dog were seen to approach, whereupon the eland bunched in close together facing outwards. The hunting dog started to

run round the herd, sitting down on their haunches and watching them and then circling round again. The solitary zebra then started to make sudden rushes at the dogs putting its head down and apparently trying to attack them with its mouth. Some of the bull eland then seemed to take courage from the zebra's example and also began to rush out at the dogs. Unfortunately at this juncture the dogs became aware of the presence of humans and the party broke up, the eland and zebra going in one direction and the dogs in another.

536. *Roan*.—These are disappointingly few in number. A herd of about a dozen has been seen near Merama Hill and odd individuals in the Masha Sanctuary and Nyabushozi. Considering that they receive complete protection in Ankole their comparative rarity is puzzling.

537. *Waterbuck (Defassa)*—are plentiful in eastern Ankole and also in the Kigezi Game Reserve. To most of the Banyankole waterbuck meat is taboo which probably accounts for their survival in relatively large numbers.

538. *Impala*.—These antelope are extremely localised but are fairly common in southern Nyabushozi near Lake Mburo, Sanga and elsewhere. It is noticeable that each herd has its own very limited territory from which it does not normally stray.

539. *Uganda Kob*.—In this Range kob are only found west of the Lake Edward escarpment. They occur in large numbers near the Ishasha River in the Kigezi Game Reserve where they are usually associated with topi. Herds are anything up to 50 or 60 strong, mostly females with two or three rams. Calves may be seen with the herds at all times of year. Rams are often solitary.

540. *Topi*.—Fairly common in Nyabushozi and the Kigezi Reserve whilst a few are still to be found in Isingiro and the Kikagati-Merama Hill area. They are usually in groups of three to six, though a herd of 51 was observed near the Ishasha River.

541. *Klipspringer*—have been recorded from several places in eastern Ankole.

542. *Giant (Forest) Hog*.—Occur in the Kalinzu and Maramagambo forests, in several places in Kigezi district, and probably in Buhweju.

543. *Hippopotami*.—Hippo cause a certain amount of damage to crops especially along the Ruizi River near Mbarara. The vast numbers in the Chambura River-Kazinga Channel area would appear to be causing minor erosion due to overgrazing and the desirability of taking control measures against them may have to be considered. The presence of hippo in Lutoto, a remote crater lake in Bunyaruguru, was proved conclusively when a police officer ran into one in his car one night.

544. *RODENTIA*. The local government authorities in Kigezi district claim to have trapped the astonishing total of 178,305 rats and "mole"-rats. Kabale perhaps has something in common with Hamlin Town!

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544. **RODENTIA**. The local government authorities in Kigezi district claim to have trapped the astonishing total of 178,305 rats and "mole"-rats. Kabale perhaps has something in common with Hamlin Town!

545. The Agricultural Officer states that considerable damage is caused to crops, especially freshly sown groundnuts, maize and beans, by ground squirrels.

(b) Birds

546. Ankole provides some of the best wildfowling in East Africa. The shoots which are carried out on various large artificial dams attract "guns" from as far afield as Kampala and are rated as major social and sporting occasions. The biggest shoot is held annually on New Year's Day. This year 18 guns took part in the New Year shoot, obtaining a total bag of 283 made up mainly of African pochard and whiteback, with fair numbers of garganey and a few yellow bill and hottentot teal.

547. The Agricultural Department have reported that considerable damage to crops, especially groundnuts, is caused by spurwing and knobnose geese and also by crested crane. It is also said that guinea-fowl, of which there are large numbers in Ankole, damage banana, flying up into the trees and eating the fruits. Weaver birds are extremely destructive to grain crops, but *Quelea*, though present, have not yet become the plague that they are elsewhere in East Africa.

GENERAL

(a) Diseases of Game

548. There have been no outbreaks of disease among game animals and the serious rinderpest epizootic which spread southwards from the Sudan and northern Uganda fortunately died out before it reached this area.

(b) Notes of General Interest

549. *Tsetse Control in relation to Game*.—The apparent success of the E.A.T.T.R.O. Ankole Pilot Scheme in which some 600 square miles have now been cleared of *Glossina morsitans* without the killing of a single animal, by the use of a refined technique of discriminative clearing, may be regarded as something of a victory for the cause of game preservation. It should be noted that this technique is only effective against savannah species of fly.

550. The Tsetse Control Department have continued their buffalo shooting campaign in Mitoma county of northern Ankole. The purpose of this scheme is to prevent the spread of *G. pallidipes* southwards by buffalo and other animals moving into Ankole from Toro and the Katonga River. The work is carried out by a team of well disciplined and very efficient African hunters working in pairs and operating under the direction of a European officer.

551. A large number of buffalo have been killed, and though it is unfortunate that there is no less destructive way of achieving the desired result, under the circumstances there is no room for sentiment and one must accept this slaughter as unavoidable.

PART III—FISHERIES

INTRODUCTION

565. The basic programme for the development of the Uganda fishing industry remains unchanged. It is clear, however, that more rapid progress is being made in some directions than in others, and to meet the changing pattern of development certain aspects of the programme are being accelerated and others de-emphasized. In particular the improvement of gear and craft, mechanisation, marketing, and fish farming are making rapid strides.

566. The production of fish is increasing steadily. This is particularly the case with minor lakes, rivers and dams where the rate of subsistence fishing has been intensified as a result of demonstrations and propaganda given out at Agricultural Shows throughout the country. On the major lakes high catches have been maintained, and in some cases increases have taken place. These increases are partly due to widespread use of nylon and terylene nets which have a greater catching power, and to the gradual introduction of powered craft, which is allowing fishermen to explore new grounds. As yet we are only on the fringe of mechanisation, which is at present confined to the use of outboard motors on existing canoes. Improved types of canoes modified to take outboards are being built at the Kabalega Technical School, Masindi, and they are being purchased by the fishermen. Some fishermen have also expressed a real interest in small boats specifically designed for fishing, and to meet this need the Department is continuing to import craft of various types to try and find one best suited to conditions on Uganda lakes.

567. The marketing problem, although still not entirely satisfactory, has been greatly improved by the fishermen themselves, many of whom are purchasing motor cycles and cars and marketing their own catches at the more populated centres some distance from the lakes.

568. Fish farming and the culture of fish in artificial and natural waters is a comparatively new development in Uganda. It has been received enthusiastically, and the Department is now committed to fish pond construction in almost every district. At the same time, the experimental fish farm at Kajansi near Kampala is being steadily expanded.

569. These are the lines of development which are progressing most rapidly. At the same time, however, the routine work of collection and

analysis of statistics, experimental fishing, preparation of by-products, advising and assisting fishermen, and in fact fostering progress wherever possible is being continued.

570. The detailed reports covering the departmental activities in the Lake Albert region, Lakes George/Edward region, and in fish farming have been prepared by the officers responsible, and the report for the Lake Kyoga region is based on information and statistics supplied by the Fisheries Assistant-in-Charge of that area.

SECTION I—ADMINISTRATION

571. *Fisheries Officers.*—Lists of the Fisheries staff showing their stations and areas of responsibility are given in the appendices to this Report. A Fisheries Officer recruited in U.K. joined the Department in June, 1954, and after a temporary stay at Masindi was posted to Acholi District to conduct a survey of the small fishing industry in that district, to carry out dam stocking, and to select a site for a fish farm.

572. Also in June, 1954, it was possible to withdraw the Fisheries Control Officer from Lake George, where, for a year, he had been fully occupied in reducing poaching and illegal fishing to manageable proportions. On his withdrawal from that area he was transferred to assist in the expansion of Kajansi Fish Farm, and to carry out fish farm extension work in the districts.

573. *Fisheries Assistants.*—Despite the fact that every Fisheries Officer was on leave for varying periods during the eighteen months reviewed, there was little break in the continuity of work in the main lake areas. This was possible as a result of the appointment of four Fisheries Assistants. This is a new post authorised in July, 1954, and the officers were posted as follows: one to each of the main lake areas, and one to Kajansi Fish Farm. They have taken over much of the routine work formerly carried out by the Fisheries Officers, and have proved themselves capable of carrying out development and investigational work with limited supervision.

574. *Fish Guards.*—The Fish Guards, of whom there are at present 53, have continued in their duties of collecting statistics, assisting the fishermen, and enforcing the various regulations. It is noticeable that generally speaking relations between Fish Guards and fishermen are good, and that the fishermen are realising that Fish Guards are present not only to enforce regulations but to assist the fishermen, and to pass on their problems to the Fisheries Officers.

575. *Legislation.*—The fishing and crocodile industries continued to be regulated by the Fish and Crocodile Ordinance, 1950, the Fishing Rules,

579. *Fish Supplies, Production, etc.:—*

SUMMARY OF FISH PRODUCTION FOR 1954.

Lake	Area	Pro- duction (approx.)	Landed value	Where marketed
	<i>sq. miles</i>	<i>Tons</i>	<i>£</i>	
Lake Victoria (Uganda waters)	10,961	10,550	475,000	Internally to Uganda in the vicinity of the Lake.
Lake Edward and Kazinga Channel	235	2,500	250,000	Salted, smoked or frozen to the Belgian Congo, Uganda and other E.A. territories.
Lake George ..	104	3,500		
Lake Albert and Albert Nile ..	1,385	3,500	93,300	Mostly salted and exported to the Belgian Congo, some sold locally.
Lake Kyoga and Victoria Nile ..	880	3,000	100,000	Internally to Uganda markets. To the Belgian Congo and local markets.
Lake Nakivali ..	10	570	22,800	
Other lakes, dams and rivers ..	120	1,000	40,000	Local markets.
TOTAL ..	13,695	24,620	981,100	

580. *Consumption of Fish in Uganda, 1954.*—The 1954 consumption of fish in Uganda was estimated to have been approximately 18,250 tons. The fish came from the following sources:—

	<i>tons.</i>
Lake Victoria	10,550
Lakes Edward and George	1,500
Lake Nakivali	370
Lake Albert and Albert Nile	1,400
Lake Kyoga and Victoria Nile	3,000
Other lakes and dams	1,000
TOTAL	17,820

In addition to this approximately 400 tons of dried, fresh and tinned fish were imported from Kenya, Tanganyika and overseas. Unfortunately detailed Customs figures covering these imports are not yet available.

581. *Exports of Fish:—*

(a) Dried fish exported by road:

To the Belgian Congo through Mpondwe Customs Post, Toro District, from Lakes Edward, George, Nakivali, and the Kazinga Channel:—

1,483 tons valued at £216,722;
(1953—1,561 tons valued at £221,137).

(b) Dried fish exported by steamer and canoe:

To the Belgian Congo through Mahagi Port, Lake Albert:—
707 tons valued at £60,486;
(1953—700 tons valued at £62,590).

(c) Frozen fillets exported by rail and air:

To Kenya and Tanganyika from Lake George:—
134 tons valued at £31,473.

582. Exports of dried and salted fish to the Belgian Congo totalled 2,190 tons valued at £287,740. Prices paid were slightly higher than in 1953 owing to the improved quality of the processed fish from the Lake George area.

583. Lake Albert fish dropped in price by £5 per ton. Fish from Lake Albert is competing with imports into the Belgian Congo from other countries, and to this must be added the fact that the Belgians are intensifying their own fishing effort greatly. Both these trends were foreseen and commented on in the 1953 Annual Report, and some success has been obtained in finding alternative markets for Lake Albert fishermen.

584. *TUFMAC*.—The Uganda Fish Marketing Corporation based on Kasenyi, Lake George, completed the installation of their cold storage plant. Full details of the fish handled by the organisation are given in the Lake George section of this report, but it is interesting to note, that as a result of the success of quick frozen *Tilapia* fillets, it was, for the first time, possible to supply many more markets in East Africa than had been the case in previous years, when the bulk of the fish handled by TUFMAC was exported to the Belgian Congo.

585. The Chairman of the Uganda Fish Marketing Organisation reported on the situation as follows:—

“... Two salient facts emerge from this change of activities. Firstly, the ratio of East African sales to exports has shown a marked improvement; whereas in 1952 and 1953 only 15% of our sales reached local markets, and 85% was exported mainly to the Belgian Congo, during the year under review (1954), 50% of our sales were in East African territories.

“Secondly, although the quantity of fish purchased fell far short of what was anticipated, the more profitable and economical utilisations of raw materials resulted in an increase of 11% in sales turnover from 14% less material without any increases in selling prices.”

586. *Crocodile Industry*.—Crocodile trapping continued at a reduced scale in almost every sizeable lake and river outside of National Parks, Sanctuaries and Game Reserves. By the end of the year 7,900 skins valued at £44,553 had been exported. This is a reduction on 1953 when 15,000 skins with an approximate value of £100,000 were exported. There is no doubt that the crocodiles have been greatly reduced in quantity, to the

benefit of the fishing industry, and if the present rate of trapping continues it will be some time before they re-establish themselves in their previous numbers.

587. *Boatbuilding*.—One of the most pressing needs of the Uganda fishermen has been met by the successful establishment of a Boatbuilders Training Course, at Kabalega Technical School, Masindi. Details of the course are given in the Lake Albert section of this report, and although the Lake Albert fishermen will be the first to benefit from this scheme, the course has aroused great interest among fishing communities throughout the country.

588. *Angling*.—Nile Perch and Tiger Fish: these two fish, the finest sporting fish in Uganda, are dealt with in the Lake Albert section of this report. So popular is Nile Perch fishing on Lake Albert, that, during 1954 the E.A.R. & H. fishing launch was booked for two out of every three days throughout the year, by residents and visitors.

589. Fishing for Barbel (*Barbus radcliffei*) on the Victoria Nile at Jinja continues to be a popular sport. The big concentrations of fish previously found at the Ripon Falls have now, with the rising water level, probably found their way into Lake Victoria, but good fishing can be had in the river at selected spots below the Owen Falls Dam.

590. *Visitors*.—In February, 1955, Uganda was visited by Dr. C. F. Hickling, C.M.G., Fisheries Adviser to the Secretary of State for the Colonies. During his stay Dr. Hickling visited Kajansi Fish Farm, and the fisheries of Lake George and Lake Edward.

591. *Lake Victoria Fisheries Board*.—Meetings of the Board were held at Jinja, Kisumu and Mwanza on the 15th January, 1954, 27th July, 1954, and 24th January, 1955. The meetings at Jinja and Mwanza were attended by the Game Warden, and Senior Fisheries Officer respectively.

592. *East African Inland Fisheries Research Advisory Committee*.—Meetings of the Committee were held at Jinja on 14th January, 1954, and 22nd August, 1955. Meetings were also held at Kisumu on 15th June, 1954, and at Entebbe on 30th November, 1954. Two of these meetings were attended by the Game Warden, and the remainder by the Senior Fisheries Officer, and Acting Senior Fisheries Officer.

593. *Courses of Instruction, Lectures, etc.*—The Department has taken every opportunity to participate in courses of instruction, County Shows, etc. In September, 1954, the Senior Fisheries Officer gave a comprehensive series of lectures to chiefs from various parts of the Protectorate, which was followed up by demonstrations of fishing gear, and by visits to Kajansi Fish Farm. Field Officers have also lectured to chiefs and other interested parties, and have, whenever possible, participated in County Shows.

SECTION III—FISHERIES BY REGIONS

Lake Albert Region *Fisheries Officer's Report*

INTRODUCTION

594. The period under review has, in many respects, been most encouraging. Fishermen all over the lake are investing in better craft and gear; synthetic twines and nets are replacing the long favoured cotton and flax, and some fishermen are purchasing outboard motors, and showing considerable interest in small inboard engines. The boatbuilding course at Kabalega Technical School is well under way and arousing interest not only locally, but in other parts of the country. One or two fishermen have purchased motor vehicles to enable them to market their own fish, and this should ease the ever present marketing problem. Finally, the establishment of the African Loan Fund has given a great stimulus to the industry, and when fully operating will provide the means for greater improvements and greater expansion.

595. One very pleasing feature is that the Department has at last succeeded in winning the confidence of the fishermen. Over the last two years our efforts have been concentrated on this aspect rather than on the prosecution of minor offenders, and the result now is that fishermen come freely to the Fisheries Office with all manner of problems, ranging from the mounting of nets to the installation of inboard engines. The situation is often embarrassing, as many of these fishermen are prepared to leave vast sums of money with the Fisheries Officer, instructing him to purchase all their fishing requirements, and even household goods.

596. The only disturbing feature in this picture is that the supply of synthetic twines and nets, and engines is unable to cope with these sudden and increasing demands, and this results in disappointment both to us and to the fishermen, particularly when such enthusiasm should be given all the encouragement possible.

STAFF

597. The Fisheries Officer was absent from Masindi from May, 1954, until January, 1955, and during this time the region was in charge of a Fisheries Officer newly recruited from U.K. The Fisheries Assistant has travelled extensively on the lake whilst acquainting himself with local conditions, and has relieved the Fisheries Officer of many routine duties, enabling him to concentrate more fully on development work.

598. The Fish Guards have been brought up to strength, and are now posted at most of the important fishing communities around the lake.

LAUNCH

UP.15 was in continuous use throughout the period, and on the whole gave satisfactory service. At the time of the last slipping, however, she required major repairs, and is now becoming increasingly prone to minor engine troubles.

LICENSING

599. There are now some 600 licensed canoes operating on Lake Albert. There are undoubtedly a number of unlicensed canoes operating, but they are of no danger to the fishery. As it stands the method of licensing carried out by the Native Government is generally satisfactory, and it provides a fairly reliable estimate of the fishing effort.

PRODUCTION

600. Total production of fish from Lake Albert during 1954 was of the order of 3,500 tons. This figure was made up as follows:—

		<i>tons.</i>
Export to the Belgian Congo ...	...	2,100
Local sales ...	...	400
Consumed by the fishermen ...	...	800
Additional subsistence fishing ...	...	200
TOTAL ...		3,500

This total is considerably higher than last year, but the increase is not due to any increase in the fishing effort, but is a result of previous under-estimation of the amount of fish consumed by the fishermen, their families and their labour force. The present figure of 800 tons was arrived at after a survey covering 100 fishing families around the lake.

EXPORTS TO THE BELGIAN CONGO

601. The following table shows the exports of salted fish to the Belgian Congo through Mahagi Port:—

Month				Weight	Value
				<i>Kilos</i>	<i>Francs</i>
January ..	..	..	..	47,889	646,381
February ..	..	..	..	27,477	363,887
March ..	..	..	..	63,340	698,010
April ..	..	..	..	65,662	760,644
May ..	..	..	..	60,142	709,926
June ..	..	..	..	60,722	857,714
July ..	..	..	..	62,486	803,987
August ..	..	..	..	73,927	754,277
September ..	..	..	..	58,753	619,732
October ..	..	..	..	62,818	673,618
November ..	..	..	..	59,890	695,576
December ..	..	..	..	77,299	884,372
				720,405	8,468,124

602. This represents approximately 707 tons of salted fish with a value of £60,486, (i.e. £85 per ton). The prices prevailing are therefore slightly less than last year when 699 tons with a value of £89 per ton were exported, and since 1952 prices have declined by £26 per ton.

MARKETING

603. Our efforts to attract buyers to Butiaba have been disappointing. One or two have shown initial interest, but after making a few purchases of a token nature they have quickly disappeared from the scene. The Masindi buyer licensed in 1953 has continued to purchase, but the amounts have been small and his visits irregular. The fishermen are still willing to sell locally, and as prices in the Belgian Congo have dropped they should be prepared to accept lower prices here. Whether they will accept drastic reductions is another matter. To sell any quantity of fish at the larger inland markets the price must be within reach of the consumer, and must certainly compete with that of meat. Purchasing at £85 per ton (75 cts. per lb.), leaves the dealer with very little margin if he is going to fulfil these conditions and still meet his inevitably high transport charges. In the large Mengo markets the present price would probably compare favourably with meat, but the public in that region prefer smoked fish, which the Lake Albert fishermen cannot produce because of lack of firewood. In Acholi there is a very large unsatisfied market for salted fish, but as meat in that District sells for under Sh. 1 per lb., the price of fish would have to be reduced considerably.

604. The only apparent solution to the problem seems to be for the fishermen themselves to market their fish on the open market where they can see the problems involved, and where they can enter into competition with fishermen from other parts of the county. Some of them are coming round to this idea, and one or two have purchased motor vehicles which will enable them to sell in Bunyoro, West Nile, and Acholi. Using these vehicles they should also be able to bring in supplies of firewood from the Budongo Forest with which they could smoke fish for the Mengo markets.

DEPARTMENTAL ACTIVITIES

605. *Boatbuilding*.—The boatbuilding course at Kabalega Technical School, Masindi, started in January, 1955. This is a two-year course which at present is being attended by 13 apprentices, and one Fish Guard, who have had previous instruction in carpentry. It is hoped that at least some of these people will take up boatbuilding as a full time occupation on the completion of the course.

606. The first boat to be laid down was a modified type of Sese canoe which has now been completed. This craft was built of first grade mahogany, and in appearance is not unlike the conventional type of Sese to which the fishermen are accustomed. It is however a much more substantial craft than the normal type. Instead of being double ended this boat has a short transom to take an outboard motor.

607. It was considered that a complete breakaway from the traditional design would be premature at this stage and that it would be better to get the fishermen accustomed to slight changes in design before introducing

a completely different type of boat. The boat in mind is something patterned after "The East Coast Cobble" which is used by many inshore fishermen in the United Kingdom. These craft are extremely seaworthy and should be well suited to the open waters of Uganda lakes; they are usually powered by small inboard engines. Plans for this type of boat have already been ordered, and work on the first one will start as soon as possible.

608. Output at present is limited by the space available for construction, but a second shed is under way, and when complete will be able to cope with four boats at one time. In addition to this shed arrangements are in hand to acquire a plot of land on the lake shore at Butiaba where a proper boatyard will be built.

609. A party of fishermen who were conducted around the yard showed great interest in the work, and ordered a further two boats modified to take outboard engines.

610. *The African Loan Fund.*—As mentioned briefly previously the establishment of this fund has aroused great interest amongst the fishermen. A good number of applications have been received and passed on for the decisions of the Fund Committee. In most cases the applicants hope to use their loans for purchasing synthetic nets and twines, outboard or inboard engines, and new craft. One surprising development is that when it was known that some fishermen had applied for loans, others started to use their savings to invest in the same type of gear. This seems to be a case of keeping up with the neighbours.

611. It is unfortunate that the fishermen have to compete with so many other primary producers for these loans, as this naturally reduces the amounts available for the fishing industry, which at its present stage of development is in need of all the capital possible.

612. *Co-operative Societies.*—A year ago attempts to form two Co-operative Societies failed, because the idea of self-help was lacking amongst the members who expected unlimited assistance from Government. At that time the office bearers of these two Societies were informed that when they could demonstrate that they were really sincere in their desire to form a society this Department would assist wherever possible. At the same time it was suggested to them that they should rid themselves of those people who were in arrears with their subscriptions, and who had obviously joined to get something for nothing. It appears that they have followed this advice. The number of members in both Societies has been drastically reduced. Both have substantial savings in the Post Office Savings Bank, and one of them has placed large orders for fishing equipment at wholesale prices.

613. *Propaganda.*—The Department exhibited at three County Shows during 1954. In every case the stalls attracted great interest, and exhibits included live fish and crocodiles, net making and repairing, the processing

of smoked and dehydrated fish, and outboard engines. In Acholi District a net sold to one visitor was responsible for the start of a gill net fishery on the River Aswa, a new development for that region.

614. *Crocodiles*.—Lake Albert and the Albert Nile are still favourite haunts of the crocodile trappers, but the crocodiles have been sadly depleted in most areas.

615. *Infringements of the Fish and Crocodiles Ordinance*.—These have been few in number and were usually of a very minor nature. Some trouble was experienced at the close of 1954, when powered fishing craft from the Belgian Congo were found fishing in the Uganda inshore waters. The matter was finally amicably settled with the ready co-operation of the Belgian administrative authorities.

616. *Rwengara Fishing Village*.—The new fishing community at Rwengara at the south end of Lake Albert seems to be firmly established. Early operations were not so successful as had been anticipated, mainly due to the fact that the fishermen were practising Lake George methods in waters where they were not applicable. Catches improved considerably when they switched to local methods, namely the use of large meshed nets, and longlines.

SPORTING FISHING

617. Despite the increasing number of anglers visiting Lake Albert, the catches remain good. No outstanding fish were landed during the period reviewed, and the biggest, taken at Butiaba, were 126 and 119 lbs. There were however plenty of fish around the 70 to 80 lb. mark, and if one believes all the tales told, some real monsters were lost. It is to be hoped that those anglers who renounced the sport after a blank day or two at Butiaba, will be lured back by the report that a Perch of 323 lbs. was landed in a seine net at Kaşenyi during the second half of 1954. The photograph of the Nile Perch reproduced in this report shows the fish weighing 127 lbs. which was caught by the Game Warden at the close of 1953 and mentioned in paragraph 446 of the 1953 Annual Report. Butiaba remains the best spot for Tiger Fish, and although the fish do not seem to run to more than 8 lbs. or so, they give excellent sport, and when feeding will keep the angler fully occupied.

618. The Murchison Falls, without doubt the most delightful fishing spot in the region, has proved to be unpredictable. Experienced anglers report many blank days for no apparent reason, but there is so much of interest to be observed around the river, that no true fisherman could ever find it dull.

STATISTICS

619. Varieties of fish caught in Lake Albert, worked out in percentage of abundance from recorded samples :—

Seine Nets:

Ngege ..	..	..	<i>Tilapia spp.</i> ..	30.0
Wahrindi ..	..	..	<i>Synodontis schall</i> ..	10.7
Ngara ..	..	..	<i>Alestes spp.</i> ..	8.3
Wachone ..	..	..	<i>Distichodus niloticus</i> ..	6.5
Mpoi ..	..	..	<i>Citherinus citherus</i> ..	5.9
Bubu ..	..	..	<i>Auchenoglanis occidentalis</i> ..	5.4
Karuka ..	..	..	<i>Labeo horie</i> ..	4.8
Kisinja ..	..	..	<i>Barbus bynni</i> ..	4.9
Ngassa ..	..	..	<i>Hydrocyon forskalli</i> ..	4.7
Lanya ..	..	..	<i>Bagrur bayad</i> ..	4.0
Mputa ..	..	..	<i>Lates albertianus</i> ..	4.1
Semutundu ..	..	..	<i>Bagrur docmac</i> ..	2.8
Kugungu ..	..	..	<i>Labeo coubie</i> ..	2.6
Kasulubana ..	..	..	<i>Mormyrus spp.</i> ..	2.5
Others ..	..	..	.. ..	2.8
				<hr/> 100 <hr/>

8-inch Gill-Nets:

Mputa ..	..	..	<i>Lates albertianus</i> ..	28.5
Wachone ..	..	..	<i>Distichodus niloticus</i> ..	26.1
Mpoi ..	..	..	<i>Citherinus citherus</i> ..	13.2
Wagassa ..	..	..	<i>Hydrocyon lineatus</i> ..	9.6
Kasulubana ..	..	..	<i>Mormyrus spp.</i> ..	7.2
Kugungu ..	..	..	<i>Labeo coubie</i> ..	7.0
Semutundu ..	..	..	<i>Bagrur docmac</i> ..	3.6
Others ..	..	..	.. ..	4.8
				<hr/> 100 <hr/>

9-inch Gill-Nets:

Wachone ..	..	..	<i>Distichodus niloticus</i> ..	33.0
Mputa ..	..	..	<i>Lates albertianus</i> ..	18.6
Mpoi ..	..	..	<i>Citherinus citherus</i> ..	15.8
Kasulubana ..	..	..	<i>Mormyrus spp.</i> ..	7.1
Kisinja ..	..	..	<i>Bagrur bayad</i> ..	6.9
Semutundu ..	..	..	<i>Bagrur docmac</i> ..	5.1
Mbissa ..	..	..	<i>Clarias lazera</i> ..	4.0
Kugungu ..	..	..	<i>Labeo coubie</i> ..	4.0
Wagassa ..	..	..	<i>Hydrocyon lineatus</i> ..	4.5
Others ..	..	..	.. ..	1.0
				<hr/> 100 <hr/>

5-inch Gill-Nets:

Ngege ..	..	..	<i>Tilapia spp.</i> ..	57.3
Mpoi ..	..	..	<i>Citherinus citherus</i> ..	5.5
Bubu ..	..	..	<i>Auchenoglanis occidentalis</i> ..	5.1
Karuka ..	..	..	<i>Labeo horie</i> ..	5.0
Kisinja ..	..	..	<i>Bagrur bayad</i> ..	4.5
Mputa ..	..	..	<i>Lates albertianus</i> ..	4.1
Ngassa ..	..	..	<i>Hydrocyon forskalli</i> ..	3.1
Ngara ..	..	..	<i>Alestes spp.</i> ..	3.8
Semutundu ..	..	..	<i>Bagrur docmac</i> ..	2.7
Wahrindi ..	..	..	<i>Synodontis schall</i> ..	2.7
Kasulubana ..	..	..	<i>Mormyrus spp.</i> ..	2.2
Wachone ..	..	..	<i>Distichodus niloticus</i> ..	1.7
Kugungu ..	..	..	<i>Labeo coubie</i> ..	1.1
Others ..	..	..	.. ..	1.8
				<hr/> 100 <hr/>

SUMMARY OF SAMPLED CATCHES

Type of Gear	Seine Average 200 yds.	9" Gill-net Average 50 yds.	8" Gill-net Average 50 yds.	5" Gill-net Average 100 yds.	3" Gill-net Average 100 yds.	Long Lines 10 hooks 50 yds.
Number of fishings	522	696	798	1,815	2,382	451
Total catch (lb.)	60,853	43,790	32,541	24,765	49,069	31,829
Average per fishing (lb.) ..	116	63	40	13	20	69

AVERAGE WEIGHTS OF SPECIES (LBS.)

Type of Gear	Seine Average 200 yds.	9" Gill-net Average 50 yds.	8" Gill-net Average 50 yds.	5" Gill-net Average 100 yds.	3" Gill-net Average 100 yds.	Long Lines 10 hooks 50 yds.
Mpoi	6.5	8.1	10.4	4.0	—	—
Mputa	13.6	34.3	21.5	4.7	—	54.4
Wachone	2.9	9.1	8.1	5.7	1.3	—
Ngege	1.3	—	—	1.7	1.1	—
Ngassa	1.2	—	—	1.3	1.5	—
Ngara	1.0	—	—	2.2	1.7	—
Karuka	1.6	—	—	3.2	1.7	—
Kisinja	1.8	8.0	6.4	4.8	2.0	—
Kugungu	3.2	7.9	6.6	3.7	—	—
Semutundu	3.3	5.0	15.2	2.5	—	16.4
Kasulubana	4.5	9.3	9.7	5.1	—	—
Bubu	2.7	2.7	2.0	3.0	—	—
Wahrindi	1.4	—	—	1.6	1.4	—
Wagassa	3.2	2.5	2.7	3.0	2.0	—
Mbissa	2.5	3.4	5.0	5.8	1.8	9.0
Lanya	1.7	—	—	4.2	2.0	—
Ntaitai	—	—	—	1.9	1.4	—

RAINFALL AND FISH LANDINGS

620. There seems to be a very close relationship between rainfall and landings. This fact has already been recorded from many other regions in East Africa, and was mentioned in the Lake Albert section of the 1953 Annual Report, although at that time information on the subject was scanty. Many fishermen have been questioned on the subject and in almost every case their answer was that at times of high rainfall there was increased food in the inshore regions, and this attracted large numbers of fish.

621. They cannot state what form the food takes, and the general impression gained was that they thought in terms of insects, worms, and the like. It must also include nutrients washed out of the soil in the surrounding country, which are the first step in the food chain; and in the case of the Victoria Nile, Semliki, Muzizi, and other large rivers considerable amounts of Hippo manure washed from the river banks are delivered to these shallow estuarine-like areas.

622. A few fishermen mentioned temperature as being a deciding factor, stating that the cold shallow regions attracted large numbers of fish. This also is a reasonable assumption as these cold waters are undoubtedly

623. It will be seen that relationship is reasonably close. The discrepancies in the 1953 figures are obvious, but in that year figures of fish landings were by no means complete. When analysing figures for 1953 and 1954, it soon becomes obvious that this relationship was only apparent if the rainfall figures covered a very wide region embracing not only the lake shore, but areas a hundred miles or so away. This is understandable if these remoter regions are catchment areas for the lake, but it is not so obvious why rainfall, say, at Rhino Camp and Laropi, which are on the Albert Nile which flows out of Lake Albert, should have an effect in the lake.

624. In order to complete the picture it will be necessary to record rainfall for the Victoria Nile and Lake Victoria region which must have an effect on the flow into Lake Albert. There is also a certain amount of evidence to show that landings are very susceptible to sudden changes over a very short period of time, e.g. 48 hours. During these times effort is reasonably constant, and weather conditions, excluding rainfall and atmospheric pressure, are to all intents the same. In such cases it is possible that it is not only total monthly rainfall which we must consider, but day-to-day figures, and it is also significant that changes in the level of Lake Victoria in connection with the Hydro Electric Scheme at the Owen Falls Dam might have a very visible effect on catch fluctuations.

625. Seine Nets:—

COMPOSITION OF CATCHES

Species	Percentage of Abundance	Percentage of Weight
Ngege, <i>Tilapia spp.</i> ..	30	15
Wahrindi, <i>Synodontis schall</i> ..	11	6
Ngara, <i>Alestes spp.</i> ..	8	4
Wachone, <i>Distichodus niloticus</i> ..	7	8
Mpoi, <i>Citherinus citherus</i> ..	6	15
Mputa, <i>Lates albertianus</i> ..	4	22

626. These figures are somewhat different from those of 1953. In that year Ngara, *Alestes spp.*, Ngege, *Tilapia spp.*, and Karuka, *Labeo horie*, comprised 34.22 and 14 per cent of the total sampled catch. Ngege, *Tilapia spp.* show an increase in abundance, but the figures of average weight indicate a drop from 2.3 to 1.3 lbs. Whether such a drop has taken place is doubtful, as the average weight of the *Tilapia* caught in other gear show no decrease. It would appear that the figure of 2.3 was suspect. Mpoi, *Citherinus citherus*, and Mputa, *Lates albertianus*, show a substantial rise and between them are accounting for 37% of the total weight landed. The pattern of seasonal fluctuations differs from that of 1953. The peak landings occurring over the period July to November coincide closely with the rainfall figures referred to previously.

627. The seine netters continue to prosper and are still responsible for the bulk of the landings on the lake. Now that they are changing over from tyre thread to nylon, and are beginning to construct their nets with "bags," their catches will probably increase.

628. *9-inch Gill-Nets*:—

COMPOSITION OF CATCHES

Species	Percentage of Abundance	Percentage of Weight
Wachone, <i>Distichodus niloticus</i> ..	33	24
Mputa, <i>Lates albertianus</i> ..	19	50
Mpoi, <i>Citherinus citherus</i> ..	16	10

629. There has been a drop in the numbers of Wachone, *Distichodus niloticus* captured from 53 to 33 per cent, and a slight drop in the numbers of Mpoi, *Citherinus citherus*.

630. The figures also show that the average weight of these species have dropped slightly.

631. It is not considered that these drops in numbers and weight are significant. In 1953 10-inch nets were sampled and their catches included in the 9-inch figures. This year this has not been done, and this must have had its effect. Moreover when considering the larger meshed gill-nets, i.e. 8- and 9-inch, it must be remembered that these are home-made nets and although recorded as 8- and 9-inch the mesh measurements do vary from 7 to 10 inches, and lengths vary considerably.

632. *8-inch Gill-Nets*:—

COMPOSITION OF CATCHES

Species	Percentage of Abundance	Percentage of Weight
Mputa, <i>Lates albertianus</i> ..	28	52
Wachone, <i>Distichodus niloticus</i> ..	26	18
Mpoi, <i>Citherinus citherus</i> ..	13	12

633. The average weight of all three species shows an increase on 1953, but this is probably due to variations in net size. The Mpoi, *Citherinus citherus* continue to show a decrease in numbers, but it is not such an abrupt drop as in previous years, and this species may now have

reached its lowest level. Peak catches occur in April, August and November, the times of heavy rainfall. At the instigation of this Department one fisherman has started to operate his gear in the deep waters of the lake. This resulted from our discovery with the echo-sounder of considerable numbers of fish at the 100 to 150 foot level. The fisherman in question however, has been shooting his nets at random 4 to 5 miles from the shore in about 100 feet of water. Two 8-inch nets were shot on the first occasion, and the total catch was 30 Mputa, *Lates albertianus*, having a weight of some 900 lbs., the largest topping the 100 pound mark. The catch has aroused great interest among a few of the more progressive fishermen, and the difficulty experienced in operating this gear in deep water from a Sese canoe has impressed on the fishermen very forcibly the fact that powered craft are a necessity when it comes to operating in deep water.

634. *8- and 9-inch Gill-Nets—Summary.*—Both these nets, and the 10-inch nets whose catches are the same, started on this lake as the "poor man's" gear, and were originally made from odds and ends of twine, sisal thread, and tyre thread. The operators were never considered to be true fishermen, and in most cases fishing to them was a part-time occupation. Over the years, however, the gear has been improved upon, until now nets are in many cases being made of nylon. Catches are good, and the individual weights of the three main species captured, which are all No. 1 grade fish, are high. The operators of this gear seem to be more inclined to co-operative effort than other fishermen on the lake, and many of them, like the fishermen in the Far East, contribute nets for community fishing, dividing the catch according to the gear contributed. The success of these nets is resulting in their greater use by fishermen in many parts of the lake.

635. *5-inch Gill-Nets:—*

COMPOSITION OF CATCHES

Species	Percentage of Abundance	Percentage of Weight
Ngege, <i>Tilapia spp.</i>	57	40
Mpoi, <i>Citharinus citharus</i>	6	10
Kisinja, <i>Barbus bynni</i>	5	8
Mputa, <i>Lates albertianus</i>	4	8

636. Ngege catches show an increase over the previous four years, and this may be due to the increasing use of nylon nets. It is doubtful whether it is due to increase in effort, as many of the operators of this gear seem to be switching to 8- and 3-inch nets.

637. Catches of Ngara, *Alestes spp.* have dropped considerably, and as pointed out in 1953, this species, and Ngassa, *Hydrocyon forskalli*, seem to fluctuate considerably in abundance from year to year.

638. *3-inch Gill-Nets*:—

COMPOSITION OF CATCHES

Species	Percentage of Abundance	Percentage of Weight
Ngara, <i>Alestes spp.</i>	57	70
Ngassa, <i>Hydrocyon forskalli</i>	37	21
Ngege, <i>Tilapia spp.</i>	8	9

639. There has been a definite increase in the numbers of these, and 2½-inch nets. It is the impression of the Department that owing to the rising costs of gear, porters' wages, canoes, etc., many of the poorer, and apathetic fishermen are changing from 5 -inch nets to 3- and 2½-inch nets. These latter nets are selective in their catches, and good catches can be made by setting these nets by hand from the shore along the reed banks where Ngara, *Alestes spp.*, and Ngassa, *Hydrocyon forskalli*, abound, thus dispensing with the need for canoes and porters.

640. *Long lines*:—

COMPOSITION OF CATCHES

Species	Percentage of Abundance	Percentage of Weight
Mputa, <i>Lates albertianus</i>	77	94
Mbissa, <i>Clarias lazera</i>	19	4

641. This is still a very productive gear. It is cheap to construct, and as the bulk of the fish caught commands top prices the profit to the fishermen is substantial. Some very large fish were captured during the year, and in the samples examined, there were 60 fish over the 100 pound mark. As with the 8-inch nets, some fishermen are now constructing long lines for fishing on the bottom in deep water. The highest catches, mainly Mputa, *Lates albertianus*, were recorded in August.

ACHOLI SURVEY

642. In January, 1955, a Fisheries Officer newly appointed from the United Kingdom was posted to Gulu. Working under the direction of the Fisheries Officer, Lake Albert region, this Officer was required to carry out the following tasks:—

- (a) The stocking of all the Acholi dams.
- (b) To survey the Aswa River with a view to expanding the fishery in that area.
- (c) Select a fish farm site.

643. *Dam Stocking*.—In all, 23 dams were stocked with various species of *Tilapia*. At a meeting of the Acholi District Team attended by the Fisheries Officer, it was decided that when the fish had established

themselves, each dam keeper would be allocated a small boat and a fleet of nets of suitable size, and this person would be in charge of the fishing operations, the catch being supplied to the local inhabitants. It was also decided that cattle should be allowed to water in the dam proper, as previous experience has shown that this increases the fertility of the dam.

644. *Fish Farm Site.*—It had been hoped to find a site for a small demonstration fish farm in Aswa county, a place where fish farming would be of great benefit to the population. This was not possible, however, and a site was eventually chosen near Gulu township. Work was started under the direction of the Fisheries Officer, and on his departure continued under supervision by a Fish Guard and a Community Development Assistant. The scheme is progressing satisfactorily, and work is nearing completion.

645. *River Aswa Survey.*—From results obtained by experimental fishing at various points along the river, it would seem that the Aswa is best exploited by an extension of present methods, i.e. traps and gill-nets. Gill-nets are a very recent introduction to that area, and their use resulted from a demonstration given at the Kitgum Agricultural Show. Experimental fishing has shown that they can make good catches in the deeper pools of the river for limited periods, and their use is being extended. The Aswa is unlikely to be a highly productive fishery, but it will provide a seasonal livelihood for a few operators, who should have no difficulty in disposing of their catches in neighbouring towns and villages.

Lakes George/Edward Region

Fisheries Officer's Report

INTRODUCTION

646. During the eighteen months under review fisheries work in this area has proceeded along the lines indicated in the Departmental Annual Report for 1953.

647. With regard to the extension of statistical coverage for the waters of western Uganda some difficulty has been experienced in finding recruits of the right type to work in areas remote from headquarters where full-time supervision is not possible.

648. At the end of June, 1955, there were twenty-two Fish Guards out of an authorised establishment of twenty-six, of whom fifteen are sufficiently reliable and experienced to operate on their own.

649. The work of supervising and training recruit Fish Guards has been greatly facilitated by the appointment in June, 1954, of an African Fisheries Assistant who has intimate knowledge of fisheries work in this area.

GENERAL

650. *Internal Transfer of Fish.*—Investigational work has continued on the major lakes and has been extended to a number of small lakes which hitherto it had not been possible to visit. In respect of all of these, recom-

mentations have been made from time to time with regard to their better management. A number of dams in Ankole and Kigezi including those stocked with *Tilapia* in 1953 have been the subject of detailed investigation by members of the Department's Headquarters staff. In Ankole alone there are approximately one hundred dams, a large number of which are suitable for stocking with fish. This would not only assist to meet the growing public demand for fish in this area but also to a large extent counteract weed growth and consequent silting up which frequently occurs where dams are left unattended.

651. Fish ponds have been established at Kabale and Kasenyi (Lake George) and stocked with the weed-eating *Tilapia*, *T. zillii* from the Departmental Fish Farm at Kajansi. The farm has also supplied *T. zillii* for Lake Karege in Ankole where preparations are well in hand to establish a fishery for the indigenous fish *Clarias* sp. (Male) which will later be extended to include the *Tilapia* when these have established themselves.

652. Other stockings of *Tilapia* include the small Lake Kimbugu in Kisizi, Kigezi, which received *T. nilotica* and *T. leucosticta* from Lake Edward. No indigenous fish have been recorded in Lake Kimbugu.

653. The following table shows the numbers of fish stocked in the various dams:—

Lake Kimbugu, Kisizi, Kigezi: 56 *T. nilotica* and 12 *T. leucosticta* from Rwensama, Lake Edward, on 22-6-54. Length 5 to 20 cm.

Lake Karege, Ankole: 3,000 *T. zillii* from Kajansi Fish Farm, on 20-4-55. Length 2 to 3 cm.

Kasenyi Fish Pond: 2,550 *T. zillii* from Kajansi Fish Farm, on 28-4-55. Length 2 to 3 cm.

Kabale Fish Ponds: 300 *T. zillii* from Kajansi Fish Farm, on 20-4-55. Length 2 to 3 cm.

654. *Improvements to Fishing Craft*.—Developments in the type of fishing craft used have been disappointingly slow. After demonstration to the fishermen of Lakes Edward and George the Tanganyika type Sese canoe mentioned in the 1953 report was loaned to the Queen Elizabeth National Park, where it has been in continuous use for fishing since July, 1953, and is still in good condition.

655. The normal sewn plank type of Sese lasts normally for two years only. No local fisherman, however, has expressed more than initial interest in the new craft. This is undoubtedly due to some extent to lack of boat-building facilities in this area.

656. A Fish Guard has been engaged with previous carpentry experience and is under training in the building of this type of canoe at the Kabalega Technical School, Masindi. After training he will co-operate with suitable local boat-builders who are at the moment capable of building and repairing the traditional Sese canoe only. It is anticipated that a demand will emerge when a supply is available. It is also worthwhile

mentioning that at present Sese canoes are nearly all bought from Buddu and the Sese Islands where their cost now is Shs. 800. Transport to Lakes Edward and George adds a further Shs. 400 to the purchase price. The Tanganyika boat if built locally would cost very much less than this.

657. The Danish Fishing Vessel which arrived early in 1954 has been in use and demonstrated on several occasions on Lake Edward for which lake it is most suitable. Interest has been expressed, but the general opinion of the fishermen is that for its cost—£730 at Kampala—it is too small.

658. This vessel can handle up to fifty gill-nets and their catch as against about fifteen in a Sese canoe. It is very sea-worthy and thus able to fish in waters now inaccessible to fishermen. It is also much cheaper to operate than a Sese canoe and lasts far longer. It is felt that direct conversion to a new type of powered vessel is probably too big a step for the local fishermen to take at present—like their brethren elsewhere they are very conservative. However, encouraging signs have appeared in that several fishermen have applied to use outboard engines on their existing canoes and one is actually in use on Lake Edward. Once the idea of engine-powered craft has taken hold it is possible that more interest will be taken, in vessels in which the engine can be used more efficiently.

659. *Synthetic Nets*.—As a result of the efforts of this Department the use of nylon gill-nets spread to Lake Edward in December, 1954, and by March, 1955, about 25% of the nets in use at Katwe were of nylon.

660. These were first demonstrated by this Department in 1953, but owing to natural distrust of something new, and also to shortage of supplies, did not at first take on. It is considered with these, as with other new gear, they will be taken up enthusiastically once some enterprising individuals have taken the plunge and demonstrated their practical commercial worth to the rest of the fishing community.

661. A very large *Tilapia nilotica* was caught by TUFMAC during their experimental fishing on Lake George in May, 1955. This weighed 6½ lb. as against the average weight of about 1¾ lb. As the growth rate of *T. nilotica* is known to decrease rapidly when reaching maturity this must have been a very old fish and most unlucky to have ended his days in a 5-inch gill-net!

LAKE GEORGE

662. Fish handled by TUFMAC during 1954 is shown in Table A. The total landings of Ngege, *T. nilotica* show an increase on 1953 of approximately 400,000 fish representing a weight of about 300 tons; that is a total of about 2,900 tons compared with 2,600 tons in 1953. The average weight per fish fell to 1.67 lb. which is the same as in 1952.

663. The catch per net, however, has increased from 85.3 to 102.3 due mainly to a more intensive fishing effort.

664. As mentioned in the 1953 report, during that year TUFMAC dropped their prices for "other fish" Mamba, *Protopterus*, Semutundu, *Bagrus* and Male, *Clarias* in order to reduce the landing of these fish which they were finding great difficulty in handling. This had its effect and is reflected also in the "other fish" landings for 1954 which dropped to about 44% of the 1953 figures at 528 tons. The total amount of cash paid out by TUFMAC to the fishermen at £50,065 was about the same therefore as in 1953.

665. The most noticeable feature during 1954 concerning the destination of Lake George fish was the expansion of the frozen fillet trade from $\frac{1}{2}$ ton per week at the latter end of 1953 to over 7 tons, all of which is flown out on the four Dakota aircraft that land at Kasenyi every week. Markets have been expanded and fillets are now available in Kampala, Jinja, Nairobi, Dar es Salaam, and most towns in the Eastern Province.

666. TUFMAC intend to expand sales further and make fish available throughout the Protectorate and adjoining territories.

667. A fish meal plant has been ordered and is scheduled to begin production in the latter half of 1955, which will be capable of producing a high quality meal suitable for animal consumption for which there is a demand both in Uganda and adjoining territories. This will make use of fish offal, and fish carcasses unsuitable for human consumption and thereby recover valuable animal protein which hitherto has perforce been wasted for lack of processing facilities.

668. Relations with the fishermen continue to be good, but in April and May, 1955, the catches were below the usual standard due to a number of canoes not fishing. One canoe out of action can make a difference of as many as 9,000 fish to the monthly total; and it will be appreciated that with, as at present, 60 canoes licensed to fish nets, if ten canoes are out of action and others are fishing haphazardly, this can render TUFMAC's monthly target of 290,000 unobtainable.

669. TUFMAC continued to supply nets, corks and twine at just over cost price, and to advance fishermen money for the purchase of canoes.

670. An experimental fishing programme was inaugurated by TUFMAC under the direction of the Game and Fisheries Department late in 1954. One object of this is to obtain comparative figures of catch per net when nets are set without driving the fish as is practiced by the fishermen, and so make interpretation of fishing statistics more realistic. Also it is hoped to discover more about the population, habits and distribution of fish stocks at present unexploited, for instance Njunguli, *Barbus* and Nkeje, *Haplochromis* with a view to using them for fish meal.

671. The expansion of the fillet market and a slightly improved cured fish market in the Congo during 1954 saw TUFMAC with large orders which they were finding great difficulty in filling. It will be recalled that in 1953 before their freezing plant came into operation they were having some difficulty in disposing of all their salted and smoked fish.

672. The position having radically altered, ways and means of expanding the landings without detriment to the fishery were examined, and ten additional canoe licences were given on Lake George in 1955. This initially resulted in heavier landings but the effort was not sustained. Further efforts are being made to induce the fishermen to fish regularly but as yet results are not apparent.

673. It seems clear that canoe owners who in some cases are grossing £1,000 per annum, are not urgently interested in earning more than they are doing at present and if for any reason they are unwilling to fish, they are sufficiently well off to bear the consequent loss of income.

THE KAZINGA CHANNEL—KATUNGURU

674. The total landing of about $\frac{1}{2}$ ton per day in 1954 differs little from 1953. The number of nets set again dropped this year by 2,025 to 6,167. The catch per net apparently increased by 3.5 Ngege; however, the figure of 38.9 fish per net is certainly the result of legal catches being augmented by nets fished from vessels licensed for long lines only, and by poaching forays into Lake George and the closed part of the Channel.

675. The small area of water open in the Channel has been subjected to a fishing effort approximately three times that in Lake George, and consequently the temptation to fish outside the legal area has always proved irresistible. A large number of convictions were obtained at this village for various fishing offences, notably those mentioned above, and several licences were removed from habitual offenders. At the same time in order to relieve the heavy pressure on the waters open to fishing the decision was taken to reduce the number of net-fishing licences from 25 to 11. This was implemented in January, 1955, and subsequently three were restored on appeal leaving a total of 14. It is too early to say what effect this is having, but there seems to be little diminution of illegal fishing except in so far as there are fewer canoes to carry it on.

676. An ice plant has been installed at Katunguru by a Katwe fish buying concern but is not yet in action. It is intended to freeze whole fish and is said to have a capacity of one ton per day, about twice the present daily landing at Katunguru.

LAKE EDWARD

677. The average weight of an individual Ngege at all landings shows little difference compared with previous years—in some cases there has been a slight increase as at Kyanja from 1.57 to 1.70 lb. This is probably due to a big decrease in the number of baskets set in Kyanja lagoon from 8,338 to 2,843 and to an increase in gill-net fishing from this village from 16.5 nets per day to 46.0.

678. Practically all of the fish caught at Kyanja supplies a large local market in Busongora around Bwera where it is carried by bicycle vendors.

672. The position having radically altered, ways and means of expanding the landings without detriment to the fishery were examined, and ten additional canoe licences were given on Lake George in 1955. This initially resulted in heavier landings but the effort was not sustained. Further efforts are being made to induce the fishermen to fish regularly but as yet results are not apparent.

673. It seems clear that canoe owners who in some cases are grossing £1,000 per annum, are not urgently interested in earning more than they are doing at present and if for any reason they are unwilling to fish, they are sufficiently well off to bear the consequent loss of income.

THE KAZINGA CHANNEL—KATUNGURU

674. The total landing of about $\frac{1}{2}$ ton per day in 1954 differs little from 1953. The number of nets set again dropped this year by 2,025 to 6,167. The catch per net apparently increased by 3.5 Ngege; however, the figure of 38.9 fish per net is certainly the result of legal catches being augmented by nets fished from vessels licensed for long lines only, and by poaching forays into Lake George and the closed part of the Channel.

675. The small area of water open in the Channel has been subjected to a fishing effort approximately three times that in Lake George, and consequently the temptation to fish outside the legal area has always proved irresistible. A large number of convictions were obtained at this village for various fishing offences, notably those mentioned above, and several licences were removed from habitual offenders. At the same time in order to relieve the heavy pressure on the waters open to fishing the decision was taken to reduce the number of net-fishing licences from 25 to 11. This was implemented in January, 1955, and subsequently three were restored on appeal leaving a total of 14. It is too early to say what effect this is having, but there seems to be little diminution of illegal fishing except in so far as there are fewer canoes to carry it on.

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678. Practically all of the fish caught at Kayanja supplies a large local market in Busongora around Bwera where it is carried by bicycle vendors.

679. The average catch per net, however, has dropped at each landing; at Katwe from 19.6 to 10.3, at Kazinga from 21.2 to 15.6, and at Kanyanja from 23.1 to 5.8.

680. At Rwensama, the new fishing village in Kigezi which started fishing in the latter half of 1954, the catch per net was 13.3. This follows from the increase in the number of nets permitted from 5 per canoe to 10 in 1954. At the same time, however, the total landing at Katwe more than doubled—the number of nets set from this landing per day was nearly four times that of the 1953 average. This was due to improvement of the Congo markets plus reduced competition from TUFMAC—whose salt and smoked cured fish are of a better quality than the Katwe product—when TUFMAC began to concentrate on fresh frozen fillets. The improving Congo market is reflected in the table of prices given below:—

	February 1954	September 1954
	<i>Shs. cts.</i>	<i>Shs. cts.</i>
<i>Smoked fish per kilo—</i>		
Ngege	3 50	3 70
Semutundu	4 50	4 70
<i>Salt fish all kinds per kilo</i>	2 15	2 40
	<i>Shs.</i>	<i>Shs.</i>
<i>Smoked fish, price per metric ton—</i>		
Ngege	3,500	3,700
Semutundu	4,500	4,700
<i>Salt fish all kinds, price per metric ton</i>	2,150	2,400

681. In the case of salt fish this also represents an increase on the September, 1953 price of Shs. 1/27 per kilo and reflects the generally increased demand for well processed fish in the Congo compared with the previous year

682. The total production of Lake Edward during 1954 was approximately 1,530 tons of wet fish as against 970 tons in 1953.

683. The figures which follow apply to the whole of the Lakes Edward and George area. In many cases they are approximations where exact figures have not been forthcoming. They should therefore be considered as a general indication of the present state of the industry and not as hard and fast statistics:—

(a) Value of shore installations—stores, salting vats, processing plants, vehicles and carrying craft	£
(b) Value of fishing craft	140,000
(c) Number of fishing nets sold in 1954—20,000, value	141,400
(d) Numbers employed in secondary industries—800, total earnings (per month)	39,000
(e) Numbers employed directly in fishing—1,700, total earnings (per month)	2,000
(f) Total market value of catch, 1954	7,000
	275,000

MINOR LAKES

684. *Lake Nakivali*.—The figures shown in the table of catches for this lake show the number of days on which statistics were recorded. The number of days actually fished is greater than this and the total catch is approximately 1,275,000 lb. and not 899,473 lb. as would appear from the table. This gives a yield of slightly less than 57 tons to the square mile, or a very small decrease on 1953 figures, and a gross total of 568 tons wet fish—of this approximately 200 tons was cured for export and the rest sold fresh locally and in Mbarara and its environs.

685. Improvements to the already well appointed villages continued and at one there were complaints that if the Fisheries Officer sited his Fish Guards' hut where he desired, it would spoil the layout of the village!

686. The number of canoes remained static at 52. The total annual value of the catch including smoked and fresh fish was approximately £15,000 representing an average income to each boat owner of Shs. 6,000. Paddlers earned Shs. 77,000 and porters employed on shore Shs. 31,000. The total value of plant, including buildings, canoes and fishing gear, is about Shs. 164,000; 1,500 gill-nets were sold, value Shs. 48,000.

687. The price of smoked fish increased from Shs. 1/15 to Shs. 1/17 per lb. and fresh fish remained static at Cts. 20 each on the landing. Catches per net showed a slight decrease in September/October but were recovering at the end of the year.

688. *Lake Kiletwa*.—This small adjoining lake is far less productive than Nakivali and catches per net are a little over half those obtaining there.

689. It continues to support five fishermen, however, who in 1954 earned about Shs. 24,000 between them. All their fish is smoke cured and exported as they have no nearby fresh fish markets. Paddlers and shore porters between them earned Shs. 10,500 and 112 nets were sold. The approximate value of plant and gear is Shs. 5,000.

690. *Lake Mburo*.—No statistics were recorded from this lake on which ten fishermen continue to operate.

691. *Lake Kachira*.—This lake, which is slightly bigger than Nakivali, is fished by about 90 fishermen, of whom 60 are Bakoki on the Masaka side of the lake and the rest Banyankole.

692. The estimated total production is about 540 tons wet fish per annum. The bulk of this fish is sold locally in Masaka either smoked or fresh. Thirteen tons were exported to the Belgian Congo. The fish which are Ngege (*T. nilotica*) are caught in 4-inch gill-nets and do not command such a high price as Lake Nakivali fish.

RUWENZORI TROUT

700. A one pound male brown trout was caught in the Ruimi River in April, 1955, above the hot springs. Other trout were also seen. This is the first definite evidence of the presence of survivors of the 1932 stocking for some time and in view of the present programme, very encouraging.

701. Mention has already been made in earlier reports of the stockings that have recently taken place of eyed-ova in the Ruboni and Murasegi Rivers. In February, 1955, a further attempt was made to stock the Murasegi, which rises at about 7,500 feet and runs into the Nyamagasani, with adult rainbow trout from the Bukwa River on Mt. Elgon.

702. This transport of fish was in the nature of an experiment to test the efficiency of a 150 gallon tank, the water in which was aerated by a compressor, and cooled by the periodic addition of ice. It was also decided to experiment with the use of a barbiturate drug to slow down the rate of activity of the fish.

703. Unfortunately only very few were successfully introduced to the Murasegi, and the bulk of them died en route, probably due to the thick film of dust which accumulated in the tank owing to the very dry conditions.

704. The Murasegi is more accessible to anglers than the majority of Ruwenzori streams, and if this small stocking proves successful a definite amenity will have been provided both for local people and for visitors to the Queen Elizabeth Park Safari Lodge, from which it is only 25 miles distant.

FISHERIES LAUNCH

705. The new launch, the "St. Peter", after various mishaps en route arrived at Katunguru on 12th May, 1955, and was eventually put in the water on the 2nd June. There has not so far been the opportunity to try out her fishing capabilities but on trials in Lakes Edward and George she has shown her paces very nicely.

706. She has a steel hull 42 feet in length, and 10 feet 3 inch beam, draws about 3 feet and weighs 12 tons. With two Perkins S6M high speed diesel engines rated at 75 b.h.p. at 1,500 r.p.m. and a hard chine hull, she is capable in these waters of about $8\frac{1}{2}$ knots.

707. She is fitted with a two-barrel winch driven off the port side engine and two seine net type rollers each side of her transom for trawling. She also has a hard wood roller across her transom for hauling gill-nets, trammel nets and long lines; she is fitted for echo-sounding.

708. One of her main uses will be experimental fishing on Lakes Edward and George with the especial object of locating fish in the deeper waters of Lake Edward and discovering the most efficient way of taking them.

RECORDS OF CATCHES

709. *Distribution of TUFMAC Fish, 1954:—*

1. Total weight and value of salt dried and smoked fish exported to the Congo in 1954:—

1,367,563 lb. Shs. 1,605,123/15

2. Total weight and value of salt dried and smoked fish distributed in Uganda in 1954:—

116,059 lb. Shs. 122,108/72

3. Total quantity and value of fresh whole fish distributed in Uganda in 1954:—

610,300 lb. Shs. 316,795/22

4. Total quantity and value of quick frozen fillets distributed in 1954:—

(a) in Uganda ... 105,520 lb. Shs. 261,656/85

(b) in Kenya ... 299,568 lb. Shs. 624,453/25

(c) in Tanganyika ... 2,400 lb. Shs. 5,024/00

5. Total amount paid out to the Lake George fishermen in 1954:—
Shs. 1,001,300 (£50,065).

710. *Lake Edward and Kazinga Channel.*—The total sampled catch of the principal predatory species, e.g. Semutundu (mainly), Male and Mamba was:—

Total number of predators: 224,773

Total weight of predators: 1,031,635 lb. (460.55 tons).

711. Averages:—

	Katun-guru	Katwe	Kayanja	Kazinga	Rwensama
Average number of nets per day	17	266	45	35	69
Average number of Ngege landed per day	698	2,723	289	505	994
Average total weight of Ngege landed per day in lb.	1,113	4,527	495	835	1,628
Average Ngege catch per net per day	38.9	10.3	5.8	15.6	13.3

712. Average weight of:—

	Katunguru	Katwe	Kayanja	Kazinga	Rwensama
	<i>lb.</i>	<i>lb.</i>	<i>lb.</i>	<i>lb.</i>	<i>lb.</i>
Ngege	1·59	1·65	1·70	1·65	1·63
Semutundu	4·27	4·18	3·58	3·84	3·27
Kasulubana	4·24	2·96	3·2	3·0	3·14
Kisinja	2·54	2·63	2·66	2·8	2·67
Male	7·75	6·45	8·66	8·07	7·11
Mamba	9·55	8·0	10·36	11·77	8·63
Ningu	3·35	2·94	3·77	3·0	3·3

713. The total tonnages recorded at Katunguru, Katwe, Kayanja, Kazinga and at Rwensama:—

	Katunguru and Katwe	Kayanja, Kazinga and Rwensama
	<i>Tons</i>	<i>Tons</i>
Ngege	884·49	253·76
Semutundu	254·13	94·86
Kasulubana	—	—
Kisinja	58·37	47·46
Male	25·77	10·19
Mamba	58·17	17·4
	1,280·93	423·67

714. The heaviest fish recorded are:—

	Katunguru	Katwe	Kayanja	Kazinga
	<i>lb.</i>	<i>lb.</i>	<i>lb.</i>	<i>lb.</i>
Ngege	2-5	3-4	3	2-4
Semutundu	30-50	26-45	26-30	15-35
Kasulubana	8-13	8	—	8-10
Kisinja	7-10	7-10	10-12	7-11
Male	30-35	28-30	25-30	38-49
Mamba	36-40	22-40	26-35	32-40

715. Recorded Catches, Lake Nakivali, 1954:—

		LANDING					
		Kahirimbi		Rukinga		Kashovu	
Days	291			277		152	
Nets	4,621			8,149		4,044	
Ngege	<i>No.</i>	<i>lb.</i>	<i>No.</i>	<i>lb.</i>	<i>No.</i>	<i>lb.</i>	
	260,497	258,527	469,475	453,588	189,364	178,098	
	1,309	4,190	1,376	3,714	555	1,356	
Male	261,806	262,717	470,851	457,302	189,919	179,454	

716. Quantities and values of smoked fish exported from Lake Nakivali during 1954:—

Month			Weight in lb.	Value
				<i>Shs. cts.</i>
January	..	..	15,136	17,406 40
February	..	..	11,590	13,328 50
March	..	..	29,764	33,335 68
April	..	..	7,592	8,503 04
May	..	..	14,332	16,051 84
June..	..	..	9,926	11,117 12
July	..	..	4,996	5,561 92
August	..	..	12,696	14,854 32
September	..	..	13,012	15,224 04
October	..	..	15,984	18,701 28
November	..	..	8,052	9,420 84
December	..	..	4,995	5,844 15
			148,075 (approx. 66 tons)	169,349 13 (approx. £8,467)

717. Recorded Catches, Lake Kachira, 1954:—

			LANDING			
			Rulambira		Nyanga	
			151		151	
Days	..	..	2,846		3,153	
Nets	..	..		
			<i>No.</i>	<i>lb.</i>	<i>No.</i>	<i>lb.</i>
Ngege	..	..	99,534	71,250	136,219	99,217
Male	..	..	865	1,656	485	1,043
TOTAL	..	..	100,399	72,906	136,704	100,260

718. Quantities and values of smoked fish exported from Lake Kachira during 1954:—

Month			Weight in lb.	Value
				<i>Shs. cts.</i>
August	..	..	2,661	3,113 37
September	..	..	6,232	7,166 80
October	..	..	8,635	9,930 25
November	..	..	11,878	13,659 70
TOTAL	..	..	29,406	33,870 12 (£1,693)

719. *Recorded Catches, Kigezi Lakes, 1954:—*

Landing	Days Statistics Collected	Nets 4"	Ngege		TOTAL	
Kyabayinga (Lake Bunyonyi)	107	4,090	13,249	10,610	13,249	10,610
Bwidisha (Lake Mulehe) ..	48	446	2,439	2,047	2,439	2,047
		Nets 5"				
Kaboko (Lake Mutanda) ..	9	85	55	78	55	78
Bwidisha (Lake Mulehe) ..	96	4,660	9,235	14,048	9,235	14,048
Kantambiko (Lake Kayumbu)	1	12	95	—	95	—
		Baskets				
Kabami (Lake Chahafi) ..	3	123	1,136	—	1,136	—

TABLE A

TABLE OF RECORDED CATCHES—1954

LAKE GEORGE

Month	Days	Total per month Ngege	Total weight of other kinds in lb.			Total average daily landings Ngege	Average daily landings per Sese Canoe	Average of each Ngege lb.
			Mamba	Semutundu	Male			
January	27	373,875	64,871	58,736	11,644	13,847	345	1·80
February	24	307,024	32,217	31,765	6,932	12,792	308	1·77
		42†	8†	—	2†	—	—	—
March	27	383,528	46,127	25,123	10,028	14,205	341	1·74
April	22	241,546	41,071	17,560	8,561	10,979	296	1·63
May	25	325,834	44,261	53,050	10,012	13,033	321	1·73
		1,624*	249*	282*	21*	—	—	1·62
June	26	286,711	60,094	82,101	21,044	11,027	278	1·74
		67†	43†	16†	—	—	—	—
July	26	257,123	40,628	56,310	8,397	9,889	241	1·69
August	26	265,969	40,800	38,662	6,815	10,226	262	1·67
		42†	—	90†	—	—	—	—
September	26	319,954	56,420	27,669	8,365	12,305	330	1·62
		120†	—	60†	—	—	—	—
October	26	320,897	51,687	39,297	6,673	12,342	316	1·62
November	26	332,069	39,454	49,624	5,667	12,772	306	1·54
		—	—	229†	—	—	—	—
		74†	—	99†	—	—	—	—
December	24	271,680	36,924	38,141	6,227	11,320	298	1·51
GRAND TOTALS	305	3,688,179	554,854	518,814	110,388	144,737	3,642	1·67

* By TUFMAC fishing.

† Brought in by chiefs from poachers.

TABLE B

TABLE OF RECORDED CATCHES—1954

LAKE EDWARD AND KAZINGA CHANNEL

Species	Katunguru		Katwe		Kayanja		Kazinga		Rwensama	
	No.	lb.	No.	lb.	No.	lb.	No.	lb.	No.	lb.
Ngege, <i>Tilapia Nilotica</i> ..	240,440	383,099	961,355	1,598,170	90,444	154,456	144,113	238,098	107,441	175,882
Semutundu, <i>Bagrus docmac</i> ..	20,765	88,720	114,934	480,531	25,322	90,753	18,283	70,295	15,765	51,460
Kasulubana, <i>Mormyrus spp.</i> ..	246	1,043	310	920	353	1,131	100	301	105	330
Kisinja, <i>Barbus spp.</i> ..	6,830	17,402	43,021	133,366	28,948	77,078	3,565	10,000	7,205	19,249
Male, <i>Clarias lazera</i> ..	2,623	20,346	5,789	37,395	1,092	9,573	922	7,443	818	5,823
Mamba, <i>Protopterus aethiopicus</i> ..	7,617	72,999	7,158	57,395	1,232	12,773	1,602	18,865	851	7,350
Ningu, <i>Labeo forskalli</i> ..	20	67	118	348	40	151	17	51	3	10
TOTAL NETS SET	6,167 (and 47,668 hooks)		92,226 (and 6,600 hooks) (and 1,682 baskets)		14,333 (and 4,706 hooks) (and 2,843 baskets)		9,226 (and 16,744 hooks) (and 175 baskets)		7,523 (and 18,980 hooks) (and 1,879 baskets)	
TOTAL DAYS STATISTICS RECORDED	344		353		312		285		108	

Lake Kyoga Region Report

By Acting Senior Fisheries Officer

INTRODUCTION

720. Steady progress has been maintained throughout the period under review. All dams in the Teso District have now been stocked with various species of *Tilapia*, and are producing substantial quantities of fish for the people living in their vicinity. The stocking of dams in other districts is progressing satisfactorily, and active and practical help is being given in this programme by Chiefs and local people. In fact there is a growing realisation that the Fisheries Staff are there to help, and that the fishing industry is a valuable one as yet not fully exploited. In previous years the industry was apt to be regarded as of little consequence, but by continual participation in County Shows, Chief's Courses, etc., and by producing concrete and visible results, the Fisheries Staff have given the lie to this outlook. Although much has been done in the main lake, development is still hampered by the lack of access roads to the very numerous and widely scattered fishing villages. This means that the administration of these areas is difficult for the Fish Guards, and that the industry itself is not so efficient as it might be were these villages well served by roads. It is very noticeable that where good roads to the lake shore do exist there is a degree of stability among the fishermen and they do settle and expand their fishing from a focal point. Elsewhere fishermen roam from place to place, and the marketing of catches, always a difficult problem in Uganda, is further aggravated. Nevertheless a lot has been done. Synthetic nets have been successfully established and are greatly favoured by the fishermen. Crocodile trapping, still a lucrative occupation, has enabled new areas to be opened up to net fishing and long line fishing, and many of these new areas are being exploited by people who have never fished before but who have been trained by Fish Guards to mount, operate and repair nets.

GENERAL

721. *Office.*—In May, 1954, the Fisheries Office for the Lake Kyoga region was moved from Serere to Soroti, which had always been considered to be a more suitable headquarters.

722. *Staff.*—As yet it has not been possible to station a European Fisheries Officer permanently in this region, and since March, 1953, the area has been in local charge of an Eteso, who in July, 1954, was promoted to the new post of Fisheries Assistant. Throughout this period this officer has, with supervision from headquarters, carried out his task of maintaining development and administering the industry in an efficient manner. Owing to housing difficulties, shortage of staff, and the fact that the extensive development of the main lake has been difficult for the reasons given earlier, it was decided to make use of the only available Fisheries Officer elsewhere, since the Fisheries Assistant had proved himself capable of carrying out the current programme of development.

their person, small packets of crocodile skin and fat. They state that without these their trapping operations would not be successful. Other trappers use more orthodox methods.

728. *Dams*.—This has been one of the most successful aspects of the Department's work in the region. Dams have been stocked with various species of *Tilapia* for some years now, but it is only recently that any real effort has been put into fishing them, and even now they could stand a more intensive effort. In order to stimulate the people's interest and make them aware of this readily available source of food, demonstrations of rod and line, nets and long line fishing have been given in many of the dams. Fortunately no blank catches occurred during these demonstrations and in some cases *Tilapia* of 2½ lb. weight were taken out. In one area it was necessary to instruct the Fisheries Assistant to cook and eat the fish caught in the presence of the spectators, as opinion in that area held that no good could come of this stocking of fish and that the fish were poisoned. The Fisheries Assistant, needless to say, is still in good health.

729. As yet rod and line fishing is the only method in general use but even so some dams are yielding up to 25 lb. of fish per day by this method.

730. Many of the dams harbour crocodiles which do some damage to the retaining walls due to their habit of burrowing, and steps are being taken to eradicate these.

731. It has also been suspected that the Lung Fish *Protopterus* is responsible for damage to the dam walls, and a long-line set in one dam where damage was particularly bad, produced four of these fish weighing some 80 lb. each.

732. The following table shows the dam stocking carried out during the period. (All dams were stocked with either *T. zillii*, *T. nilotica* or *T. leucosticta*).

District	Dam	Date Stocked	No. of fish released
Teso ..	Ojukot ..	April, 1954	160
	Akaikwenyi ..	"	158
	Ojama ..	"	136
	Kanyidinyidi ..	"	107
	Omatendi ..	"	105
	Aminit ..	"	109
	Ayola ..	"	116
	Adakun ..	"	148
	Orungu ..	"	190
	Ageregere ..	October, 1954	105
	Akolia ..	"	49
	Onyali ..	May, 1954	39
	Obalanga ..	"	83
	Olido ..	"	160
	Adidin ..	October, 1954	149
	Anema ..	"	66
Lango ..	Adicha ..	October, 1954	69
	Alugia ..	"	79
	Agwang ..	"	117
	Abwola ..	"	139
	Ngeta ..	"	144

733. In addition to these dams three valley tanks in Busoga were stocked. Also, some of the dams stocked in previous years with *T. variabilis* and *T. esculenta* were restocked with *T. zillii*, *T. nilotica* and *T. leucosticta*.

LAKE KYOGA AND MINOR LAKES

734. *Introduction of New Species.*—Following on the success of *T. zillii*, *T. nilotica* and *T. leucosticta* in the Teso dams, it was decided to stock these fish in Lake Kyoga and Lake Salisbury. There was evidence to indicate that they had already found their way into the main lakes from the dams during the rainy season. During 1954 considerable numbers of these fish were introduced into various parts of the main lake. There seems to be no doubt that the stockings will be successful, since in October, 1954, Lake Salisbury produced a *T. zillii* of 2½ lb., and this was followed in June, 1955, by three introduced *Tilapia* from Pigire landing in Lake Kyoga weighing 6½, 4 and 3½ lb. These were the largest fish recorded, and were undoubtedly fish which had found their way into the main lake from the dams a considerable time before. However, Fish Guards report all three species being caught in fair numbers throughout the area. It is likely that in the case of *T. zillii* at any rate, the abundant weed growth in these lakes is in part responsible for their very fine growth. Previously the indigenous *Tilapias*, *T. variabilis* and *T. esculenta* seldom exceeded 1 lb. in weight, the normal average being ½ lb.

735. *Fishing Effort.*—Fishing effort has increased in the Lake Kyoga region in the last eighteen months. There have been more immigrant Jaluos, and they have with their successes stimulated many of the Etesos to fish. Actual effort, however, is still very difficult to assess in this very widely scattered fishery. Perhaps the best way of demonstrating the increase is to study the sales of nets which, over the last nine years, have, from one dealer alone, risen from 900 to nearly 8,000.

736. Lake Salisbury also shows an increased effort, and the decision of the District Team to build motorable roads to this lake should do much to improve conditions.

737. Lake Kiondo and Lake Nyaguo were, as a result of the reduction in numbers of crocodiles, opened to net fishing for the first time in 1954, and this was also the case with the Agu swamp.

PRODUCTION

738. The figures given for production in the Lake Kyoga region, 3,000 tons per annum, are on the conservative side. It is not possible to record all catches, either at the lakeside, or at the various markets, and Fish Guards can only sample regularly at a few of the larger landings, and pay quick visits to the more inaccessible places as opportunity permits.

739. *The Victoria Nile.*—Between Namasagali and Atura on the Victoria Nile proper, longlining remains the most common method. Lines are either set, or one fisherman will attend to 5 or 6 baited hooks which are allowed to drift with the current. At Lwampanga at the western end of Lake Kyoga there has been an increase in net fishing due to the reduction

of crocodiles, and landings show a slight increase over last year and now stand at about 120 tons per annum. The longliners at this village state that the weights of individual *Protopterus* are higher than in previous years, and this is also due to the absence of crocodiles which used to feed to a large extent on these fish.

740. *Labori*.—This is a prosperous little fishery, and landings at the eight landings in the vicinity total some 500 tons per annum. Long lines, gill-nets and baskets are the methods in use.

741. *Bugondo and Kagwara*.—Between them these two landings account for about 150 tons of fish per annum. Catches at Bugondo are liable to sudden fluctuations throughout the year, the reason for which is not fully understood, and the fishermen move with the fish.

742. *Lake Salisbury*.—This is a rapidly expanding fishery which has only been exploited over the last three years. Catches are in the region of 200 tons per annum, and would be more if there were sufficient canoes for all the fishermen on the lake. At present many fishermen set their nets from the shore or take up crocodile trapping to get over the difficulties. There are about 5 or 6 landings and new ones are springing up as new contingents of fishermen arrive.

743. The above landings, with the exception of Lwampanga, are all in Teso District and in that District total landings are about 1,500 tons per annum valued at approximately £50,000. The total production for the whole region comes from scores of landings similar to those mentioned above, each producing 100 to 200 tons of fish per year, scattered throughout Busoga, Mbale and Lango.

SECTION IV—FISH FARMING .

Report by Fisheries Officer

STAFF

744. The Fisheries Officer was on vacation leave from May until August, 1954. On his return from leave he was posted to Mbarara to act as Game Ranger in conjunction with special fisheries research work in relation to the weeding up of dams. He resumed his duties at Kajansi in December, 1954.

745. The Fisheries Control Officer was seconded to the Fish Farming Section on his return from leave in January, 1955. After a short period at Kajansi he has worked on the extension programme in Kigezi and Ankole. During the Fisheries Officer's absence the fish farm at Kajansi was maintained by the Senior Fisheries Officer from Entebbe. The Fisheries Officer and Fisheries Control Officer were assisted by a Fisheries Assistant and six Fish Guards.

CONSTRUCTION

746. By June, 1955, fifteen small breeding ponds and one half-acre pond had been completed and were in use. A further five half-acre ponds had been constructed, but were not in use due to the extremely heavy and

of crocodiles, and landings show a slight increase over last year and now stand at about 120 tons per annum. The longliners at this village state that the weights of individual *Protopterus* are higher than in previous years, and this is also due to the absence of crocodiles which used to feed to a large extent on these fish.

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743. The above landings, with the exception of Lwampanga, are all in Teso District and in that District total landings are about 1,500 tons per annum valued at approximately £50,000. The total production for the whole region comes from scores of landings similar to those mentioned above, each producing 100 to 200 tons of fish per year, scattered throughout Busoga, Mbale and Lango.

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CONSTRUCTION

746. By June, 1955, fifteen small breeding ponds and one half-acre pond had been completed and were in use. A further five half-acre ponds had been constructed, but were not in use due to the extremely heavy and

unseasonal rains that had been experienced at Kajansi. These have made impossible the installation of the sluices, feed furrows and fish traps, which have to be installed before controlled experimental work can be undertaken. In spite of these setbacks in the timetable, these ponds have been stocked with fish and will yield some information when they are eventually drained for further construction work. A large main drain has also been constructed to deal with the flooding problem. In all, twenty-one acres of the site have been cleared and prepared for building ponds. The small breeding ponds were constructed by hand labour, while the half-acre ponds and the new drain were dug mechanically, the work being given out to contract. The Contractor found the greatest difficulty in keeping his plant in operation owing to the wet and boggy conditions.

WATER SUPPLY

747. The water supply at the Kajansi Fish Farm comes from a small permanent stream which rises north-west of Kampala. Normally it gives an adequate amount of water all the year round for the routine pond operations. This year it carried considerably more water than previously observed, and has exceeded its previous flood level by as much as three times. A large main drain has been excavated to deal with this. pH and temperature values have remained much as observed previously; i.e. about pH 7 and 24.0°C. respectively. The problem of turbidity due to colloidal clay has been solved by the addition of lime or by allowing a grass cover to develop in the pond bottom before filling, and running inflow water across the grass. How the second method works is not known; it confirms American experience. Although no controlled experiments have been carried out with inorganic fertilisers, the addition of ammonium sulphate has been shown to cause light but transitory phytoplankton blooms.

VEGETATION

748. The pond walls have been planted with *Cynodon natalensis* which has proved an excellent soil binder, forming a short dense sward. Its runners persist into the water for a short way and provide a feed for *Tilapia zillii*. *Jussaea spp.* and *Cyperus latifolium* have colonised the ponds naturally. *Tilapia zillii* does not appear to feed on either and they will have to be controlled by hand cutting and raking. This is not a large undertaking as the only areas involved are the pond edges. The cut plants are returned to the water and act as a green manure.

749. A broad and a fine leafed *Potamogeton* were introduced from Ankole. Only the broad-leafed variety rooted. It was, however, rapidly eaten down by *Tilapia zillii*. A *Ceratophyllum* introduced has rooted to a small extent only. Several exotic water weeds were planted but were unfortunately eaten when some *Tilapia zillii* escaped into the pond during a flood. No heavy growths of phytoplankton have been observed to date.

THE FISH STOCKS

750. The original fish stocks were introduced from Kidetok Dam in Teso in March, 1954. They comprised 83 *Tilapia leucosticta*, 28 *Tilapia*

nilotica and 111 *Tilapia zillii*, a total of 222 fish. The total stock of fish held at Kajansi at the end of June, 1955, comprised 3,159 *Tilapia zillii*, 266 *Tilapia nilotica* and 100 *Tilapia leucosticta*, a total of 3,525 fish. Other species kept at Kajansi are *Astatoreochromis alluaudi*. All the *Tilapias* have bred easily and frequently; the *Astatoreochromis* have not yet bred.

751. *Age of Breeding*.—The data available to date indicate that under Kajansi conditions the *Tilapias* breed at the following ages and the following lengths:—

Species	Approximate age in months at breeding	Approximate length in cms. at breeding	Approximate weight in grams at breeding
<i>Tilapia zillii</i> ..	6	15	80
<i>Tilapia nilotica</i> ..	7-8	17	98
<i>Tilapia leucosticta</i> ..	3	9	20

Tilapias, as do most fish, show a rapid growth rate before they reach breeding age, but once breeding commences the growth rate slows down considerably. This is most noticeable in the females of the mouth breeders, *Tilapia nilotica* and *Tilapia leucosticta* which are unable to feed when they are breeding. The economic importance of this data is that it partly determines the frequency of cropping to attain the highest yield. *Tilapia leucosticta* in three months grows to 20 grams, so that it is possible to take four *Tilapia leucosticta* crops per year, with a total yield of 80 grams per fish per annum. This can, however, be doubled by the two crops of *Tilapia zillii*, which are available in one year and yield 160 grams per fish per annum. Thus in one year *Tilapia zillii* is twice as productive as *Tilapia leucosticta*. *Tilapia nilotica*, however, with its eight-month rapid growth period can only yield 1.5 crops per year, worth, theoretically, 137 grams of fish per annum so that it falls half way between *Tilapia zillii* and *Tilapia leucosticta*.

752. *Growth*.—The growth of all three species of *Tilapia* has been shown to be very variable. As a general conclusion the most rapid growth appears to take place during the second, third and fourth month (this applies to *Tilapia zillii* and *Tilapia nilotica* only). Large variations in growth rate, as measured by length increase, were found when fish were measured at different ages. The following table for *Tilapia zillii* demonstrates this point:—

Age in months	Length increase in cms. per month		
	Maximum	Mean	Minimum
0-3 ..	3.85	3.28	2.57
4-7 ..	2.26	1.86	1.53
8-12 ..	2.5	0.47	0.5
13-15 ..	0.6	0.34	No growth